

THE

# Desert

M A G A Z I N E



JULY, 1943

25 CENTS





### *Midnight Lunch*

By ROY MILLER  
Los Angeles, California

Winner of May amateur photographic contest was this photo of a kangaroo rat, lured to pose with a crust of bread. Taken about 1 a. m. in Painted gorge, Imperial county, California. Photo taken with 4x5 Speed Graphic, Carl Zeiss Tessar f4.5, 5 1/4 in. lens. 1/100 sec., f22, 1 No. 5 flash bulb.

### *Trail of Fire*

By PHIL REMINGTON  
El Centro, California

Desert scene south of Coyote Wells, Colorado desert, is winner of second prize. Taken with E.K. Special 620 f4.5. Taken on XX film at f22, 1/100 sec.

# DESERT Close-Ups

• DESERT last March printed a story, "Burrowing for Billy Owls," by George Bradt, which indirectly brought together two desert rats in West Africa. George sends excerpts of a letter written "Somewhere in Africa," by Sgt. Oscar Williams, the friend who helped him dig out the burrowing owls: "I'm now a great distance from the prairies of west Texas. And the deserts hereabouts are nothing like those deserts. The only discovery I have made about them is neither new nor startling (like the mysterious buzzing of the baby owls)—it is simply that the ants around here overdo a good thing—they make their hills as large as a man. I haven't gone burrowing for the occupants of these hills yet, for I'm afraid their size may be in direct proportion to their domicile." After some notes on snakes which they say in Africa "play for keeps," he postscripts: "I had no sooner finished the above letter when an officer entered the office. The major in charge introduced me to him by saying, 'Here's a man who received a copy of your magazine today.' Lo, it turned out to be Randall Henderson, editor of DESERT!"

• One of this month's poems, "Covered Wagon Stock," had such a genuine Western rhythm and flavor, poetry editor was curious about its author, Rufe Connelly. He's now Visalia's postmaster, but for 60 years his life has been full of activity—both public and private—characteristic of the pioneer Southwest. Of those years most closely connected with the desert, he notes, "Filed on a homestead when the Yuma reservation was opened up, tramped over a lot of the great American desert, was at Victorville when Scotty's famous train went by, knew one of the Younger boys, also Si Lovern, famous train robber. Married the niece of Mobley Meadows, first sheriff of Imperial county. I am a relative of Stephen Foster, write songs, poems and short stories. Hope to be buried in the open spaces of the West where the coyotes still howl—if there are any left."

## WHEN YOU MOVE . . .

We want our DESERT readers to receive every issue of their magazine. But we cannot give them this assurance if we are not notified of a change of address by the fifth of the month. Paper restrictions prevent our supplying duplicate issues to those who have failed to let us know their new address before DESERT is mailed each month. If you are going to move and your address is uncertain, please ask us to HOLD your copies for you until you can furnish an address. We'll be glad to cooperate in every way possible—but henceforth we shall be unable to supply extra copies when we have not received proper notice by the fifth of the month.



Volume 6

JULY, 1943

Number 9

COVER	GILA MONSTER, photo by "Dick" Whittington, Los Angeles, California.	
PHOTOGRAPHY	Prize winners in May contest . . . . .	2
CLOSE-UPS	Notes on Desert features and their writers . . . . .	3
POETRY	Desert Sonnet, and other poems . . . . .	4
RITUAL	I Saw the Red Ant Chant By RICHARD VAN VALKENBURGH . . . . .	5
PRIZE STORY	The Canyon of Death By TOM TERRISS . . . . .	8
HUMOR	Hard Rock Shorty of Death Valley . . . . .	10
NATURE	How Dangerous is the Gila Monster? By WELDON D. WOODSON . . . . .	11
PHILOSOPHY	Desert Philosopher By FRANK and DICK ADAMS . . . . .	14
HOME BUILDING	Dream Home in a Utah Valley By CHARLES KELLY . . . . .	15
ART OF LIVING	Desert Refuge, by MARSHAL SOUTH . . . . .	18
NATURE	Desert Color, by JERRY LAUDERMILK . . . . .	20
DESERT QUIZ	A test of your desert knowledge . . . . .	24
MINING	Briefs from the desert region . . . . .	25
PHILOSOPHY	Courage is Born—of the Desert By PHIL K. STEPHENS . . . . .	26
NEWS	Here and There on the Desert . . . . .	30
WEATHER	May temperatures on the desert . . . . .	33
CRAFTS	Amateur Gem Cutter, by LELANDE QUICK . . . . .	34
HOBBY	Gems and Minerals —Edited by ARTHUR L. EATON . . . . .	35
COMMENT	Just Between You and Me—by the Editor . . . . .	38
LETTERS	Comment from Desert Magazine readers . . . . .	39

The Desert Magazine is published monthly by the Desert Publishing Company, 636 State Street, El Centro, California. Entered as second class matter October 11, 1937, at the post office at El Centro, California, under the Act of March 3, 1879. Title registered No. 358865 in U. S. Patent Office, and contents copyrighted 1943 by the Desert Publishing Company. Permission to reproduce contents must be secured from the editor in writing.

RANDALL HENDERSON, Editor — LUCILE HARRIS, Associate Editor.  
BESS STACY, Business Manager. — EVONNE HENDERSON, Circulation Manager.

Manuscripts and photographs submitted must be accompanied by full return postage. The Desert Magazine assumes no responsibility for damage or loss of manuscripts or photographs although due care will be exercised for their safety. Subscribers should send notice of change of address to the circulation department by the fifth of the month preceding issue.

### SUBSCRIPTION RATES

One year . . . . . \$2.50 Two years . . . . . \$4.50  
Canadian subscriptions 25c extra, foreign 50c extra.

Subscriptions to Army personnel outside U.S.A. must be mailed in conformity with P.O.D. Order No. 19687.

Address correspondence to Desert Magazine, 636 State St., El Centro, California.



*White Sands national monument, New Mexico. Photo by N. J. Strumquist.*

### COVERED WAGON STOCK

By RUFFE CONNELLY  
Visalia, California

My folks were born in covered wagon  
While coming 'cross the plain,  
Their parents were bold emigrants,  
Had hit for new terrain.  
My forbears too were emigrants,  
Came 'cross from Erin's Isle,  
That makes me son of an emigrant.  
Friend, when you say it, smile.  
My blood is two-thirds alkali,  
I'm sun baked desert stock,  
A thorough Golden Westerner,  
Gun barrel, stock and lock.  
I speak my words out flat and plain,  
I call a spade a spade,  
My word's as good, sir, as my note,  
I deal square in each trade.  
I was raised on roughest kind of fare,  
Took bitter with the sweet,  
Wore calico and denim clothes,  
I'll die with boots on my feet.  
I've helped make and give soft easterners  
The richest spot on earth,  
Now, all I ask, they be content,  
And prize my land of birth.

### SEACOAST LAMENT

By FRANCES HOPKINS  
Newark, New Jersey

Mists swirl down  
To tree top level,  
Clouds drown  
The sky in sullen grey,  
And every breath  
Is a watery gurgle today.  
All to the touch  
Is limp and soggy;  
All to the eye  
Indistinct, foggy.  
I am chilled, heavy,  
Wondering whether  
Ever again I shall feel light  
As prayer plume eagle feather  
Under the desert's  
Limitless sky  
Where earth-freed spirit  
Soars eagle high.

### ALIEN

By MRS. MAY ARMSTRONG  
Golconda, Nevada

She never knew the soft winds of the desert,  
Its mystery and its beauty were not there.  
She never saw the magic of the sunrise—  
Only the harshness of its noonday glare.

The coyote's eerie cry was direful portent,  
The shadows of the sage were full of fear.  
And when she died it was a blest releasing;  
Though we had seen her form she was not here.

Her soul she left in some far eastern hamlet,  
It wandered in those green fields year on year.  
In all her forty years upon the desert  
She hugged within her heart her hate and fear.

Limitless space, majestic far-flung mountains  
Towered within her vision every day;  
Her yearning eyes looked over and beyond  
them  
Seeing the green fields far and far away.

### DREAM OF A CITY DWELLER

By CARRITA LAUDERBAUGH  
Pacific Palisades, California

I dreamed a dream of plenty,  
Of peace forever more,  
And what I saw was desert  
With smoke trees near my door.

Mesquite wood used for cooking,  
A coyote's cry at night,  
The scent of sand verbena,  
A verdin caught in flight!

And all the desert's scents and sounds  
Swept o'er me like a wand,  
So when I wakened weeping  
I bought a new war bond.

### CLOUDBURST

By MARY OTIS BLAKE

North Scituate, Rhode Island

The gasping desert burns with scorching thirst,  
The steepening road meets piled up clouds,  
harmless at first,  
Yet darker grown and blackening swift,  
A bolt of lightning zig-zags through a rift  
With furious haste the cloudburst flings to  
earth its watery gift.

## Desert Sonnet

By CLARA S. HOFF  
Portland, Oregon

They said the desert was a lonely place,  
A changeless sandy sweep of dreary miles,  
But they could not have seen a spider trace  
His mist-like web upon some low sand piles.  
They surely did not hear the melody  
That silent places play upon the heart,  
And then they must have truly failed to see  
The calling distance where horizons start.  
Perhaps they yielded to the weary day  
And slept through twilight's mystic urge . . .  
When angels seem much nearer as we pray,  
While earth's and heaven's splendors softly  
merge,  
And lift the soul to highlands filled with peace.  
A place where troubled hearts can find release.

### WHERE THERE'S ROOM

By LELA M. WILLHITE  
Salinas, California

I'd like a wide, grey spread of sand,  
And beyond a frame of serrate blue;  
Below the gaunt, mauve mountain's band  
And clumps of sage with pearl-grey dew.

A shallow wash where smoke trees grow,  
As nuns, demurely cloaked in dun,  
A graveled wash whose colors glow,  
Forever changing, as the years are spun.

And most of all, the silent space,  
Stretching far, and calmly serene,  
Where stalwart souls meet face to face  
With every thought but of peace swept clean.

### SEA TREES

By MRS. GLADYS I. HAMILTON  
Mancos, Colorado

How out-of-world your vastness seems,  
Mojave desert land,  
With weird sea trees, whose surface roots  
Lie shallow in your sand.

You cast a spell of fantasy,  
Of life long past—marine.  
You hint of seaweed, shells and sand,  
Of waves that cast a sheen.

Once down upon those waving fronds  
That swayed with easy grace—  
Now all has changed. No sea life clings  
To that queer, wondrous place.

But Joshua trees that grope and search  
For green waves overhead—  
They grow, forlorn, upon the sand  
Of a sea that is dry and dead.

### SAILOR REMEMBERING THE ROAD TO YUMA

By D. L. EMBLEN, SoM2c  
c/o Fleet Postoffice

San Francisco, California

Four months at sea makes you long for the wide,  
warm bed of the desert;  
Makes you long for the fine-grained smell of  
sage;  
Makes you cry for the long, high peace  
That flows like a full-mouthed tide each dawn  
on the desert.

### CREED OF THE DESERT

By JUNE LEMERT PAXTON  
Yucca Valley, California

Sun and wind and a shifting sand  
Rule the day o'er the desert land.  
Moon and stars and a force that's right  
Enfold you in their arms at night.





# I Saw the Red Ant Chant

Hunbaa failed to respond to the "sings" of the Sweathouse Medicine Man. Nor could the Bilakana-Doctor-with-the-Double-Eyes cure her malady. After months of illness elaborate preparation began for the Red Ant Chant. As a climax to the days and nights of chanting and prayer rite and sacred painting of the body, Hunbaa—to the rapid tempo of a drum tattoo—gulped down a hot basketful of squirming red ants! It was to this rare healing ceremony that his Navajo friend admitted Richard Van Valkenburgh. From his detailed notes and drawings and from the narration of his medicine-man friend, the author presents for Desert readers what is possibly the first eye-witness account of the Red Ant Chant.

By RICHARD VAN VALKENBURGH  
Ceremonial drawing by Charles Keetsie Shirley

"WE HAVE come to take you to the Wóláchii, the Red Ant Chant! For three nights Hastin Díjoli has been 'singing' over Hunbaa, the wife of Hastin Frank of Bislakaih, the White Clay Place," announced my old medicine man friend Kinyá'ani Nezh.

The Wóláchii! One of the rarest of Navajo chants! During our work together in the philosophy of Navajo religion, Kinyá'ani Nezh had hinted at certain rites that no white man ever had seen. And furthermore—few Navajo.

While the old medicine man and his neophyte Hashké Yitasawoot sipped Ruth's offering of coffee I dug into my

files and reviewed my scant notes on the chant:

"Rite myth contained in Ayoonal-nezhi's version of the Navajo genesis. Sub-ritual of the *Diginkehgo*, the Holy Way ceremonies, can be 'sung' either in the Holy or Blessing Way. One as a preventive and the other as a curative. Reported to have been effectively used in the cure of erysipelas and like ailments. Archaic form reported to have used live red ants for internal treatment."

When we left Fort Defiance the pale tip of the summer moon was rising from behind the amorphous black mass of De-

fiance mesa. The way to Bislakaih, some 22 miles northeast on the Defiance plateau, was a moon-path gently thrusting its white way through the sand-painting-blue of the Navajo summer night. While we traveled, Kinyá'ani Nezh told of the events leading up to the "sing."

"It happened soon after the first snow came down from *Dziltónitsaa*, the Big Water Mountain. Hastin Frank and Hunbaa moved their sheep from the summer camp at Bislakaih on the plateau down to their winter hogans in the pinyons that fringe the rim of Tsegi'.

"They looked around. In front of their hogan door the Red Ant People had built a house. While Hastin Frank rustled firewood Hunbaa tried to dig up the Ant People's house. When Hastin Frank came back he told her that she had done a bad thing—the Red Ant People would surely punish her.

"The ants got mad. One bit Hunbaa on the leg. When Hastin Frank took her to Cozy's at Chinlé to trade she got some white man's poison called Flytox. When she got home she sprinkled this all over the Ant People. Some died right there—others went down to the bottom of the world.

"After a while Hunbaa got sick. Little white boils came out on her leg. After they broke they turned blue. They hurt bad. Hastin Frank called in a Sweathouse Medicine Man or One Horse Singer. He sang over Hunbaa for one night. She got worse.

"Then Hastin Frank took her to the government hospital at Chinlé. All that winter the Bilakana-Doctor-with-the-Double-Eyes treated her. But she got homesick and ran away. My helper, Hashké Yitasawoot, was camped nearby at *Tsinbitóo*, the Wood Spring. He sang mixed-songs over her—then finished with the *Sósojib*, or Big Star Way. She got a little better.

"After Corn-Planting-Time they moved back to Bislakaih. Hastin Frank called in a diviner. He could tell what was wrong with people by *Nidilnidjib* or Hand Trembling. He just took hold of her hand while he sang. Pretty soon it trembled. Then he told her what was the matter, 'The Red Ant People are after you. To get well, you will have to have a *Wóláchii* or Red Ant Chant!'

"They called me. I put up a medicine man from Chinlé. But Hunbaa wanted the famed Hastin Díjólí from Cornfields down on the Pueblo Colorado. I rode to his hogans. I gave him \$20 in silver and \$13 in *beshbiskaa*, or the Dry Money used by the trader at Ganado.

"Hastin Díjólí told me to stay all night. When night fell he went outside. He looked at the stars. When he came back he said that the Hand Trembler was right. No wonder my sister was sick. There were red ants on the Moon Trail. He promised to come to Bislakaih in six days.

"On the sixth afternoon he arrived. He started sending people out after all kinds of medicine. I hung around and helped him with medicine bags. I wanted to learn as much about this 'sing' as I could. That night—three nights ago—he started



*Navajo giving the author notes on Red Ant Chant. Milton Snow photo.*

'singing' over her in the *Hochójih* or Evil Way."

Long before reaching the camp the pleasant but acrid pinyon-wood smoke tickled my nostrils. From the distance the sparks flying upward from the hogan smoke-hole punctuated the pitch darkness of the pine forest. When we drew near we could hear the soft chanting of the medicine man backgrounded by the muffled beat of the basket drum.

Seemingly mesmerized by the spell of the chant-song no one paid attention to me as I slipped into the hogan. After some pushing I squeezed in amidst some 20 men bunched on the south side. Across the firelight I could see the women and children.

With his calico-clad legs akimbo Hastin Díjólí officiated from his seat on a blanket spread under the west wall. At his

left Hunbaa, the patient, was a shapeless mass swaddled in a Pendleton blanket. At his right one assistant pulverized medicine on a small slab of sandstone. Another beat the basket-drum and led the even cadence of the Devil-Driving-Songs.

After midnight the crowd thinned. Some faded into the night. Others pulled off their moccasins, wrapped their blankets around them and stretched out. Stumbling from the numbness in my cramped legs I groped my way into the moon-glow outside. The chill air was exhilarating. While I crawled into my Arctic the light of the dying moon was a fluffy fan of white streaking the western sky.

A hand shook my shoulder. Half asleep I heard the soft voice of Kinyá'ani Nezh, "Hastin, hurry! Don't sleep into the day like *Nasjaa*, the Owl. Hastin Díjólí want you to help!"

It was still dark when I ducked inside the medicine hogan. The floor had been swept clean with bear-grass brushes. The fire-pit had been cleaned out and was now smoothed over with clean dirt. Hunbaa sat silent in the same position that I had seen her the night before. While we breakfasted on mutton ribs, fried bread and coffee, Hastin Díjólí joshed me, "La! *Bilakana* spend most of their lives sleeping in soft bed."

We finished eating. Hastin Díjólí motioned to Hunbaa and Hastin Frank. We went to my car. Climbing in beside me the medicine man directed me to drive east. We traveled slowly over two deep ruts cutting across hills covered with white sage. Far to the east the sacred butte of Tsézhíh sizini was a black thumb poking up into the lightening sky.

Soon Hastin Díjólí motioned me to stop. He pointed to an ant hill that was a bald spot in the field of sage. With a flour

*Tsalee Butte, near Lukachukai. West of this "black rock standing up" the medicine man gathered the red ants for the ceremony. Photo by the author.*





sack in his hand the medicine man walked over to the small cone. Hunbaa and Hastin Frank followed. I trailed behind as unobtrusively as possible.

Just as the red rays of the morning sun seeped over the dark ridges of the Chuskas, Hastin DÍjólí opened the sack. Bending over he scooped up the scurrying ants as well as the minute granules of quartz that cascaded down the side of the hill. Facing the east he mumbled the morning prayer of *Johanabai*, the Sun Bearer.

From out of his belt he pulled four tiny buckskin bags. From one bag he took jet beads. These he laid on the east side of the hill. On the south he placed nodules of turquoise. On the west side he laid down an abalone shell. As he straightened up from placing clam shell on the north side he chanted the song of the Red Ant People.

When we returned the shaman handed Hashké Yitasawoot the juniper hearth and greasewood drill of a Navajo fire-making outfit. Placing the butt of the drill into the small concavity in the hearth he twirled rapidly. A thin thread of smoke rose from the shredded juniper bark on the hearth.

Hashké Yitasawoot bent over quickly. As he gently puffed a tiny spark gleamed. He blew a bit harder. A tiny flame licked up from the tinder. Soon the "new-fire" of the Wóláchii was building up the heat for the "sweating."

Having once been parboiled in the heat-charged air of a sweating ceremony I avoided the rigors of this one.

When the sweat was over I returned to the medicine hogan. Under Hastin DÍjólí's direction assistants were cutting 20 *kethans* or prayer sticks of Carrizo cane. Their two-inch length was measured by finger joints. Then they were cut with flint knives. After this they were painted red ochre and blue from some cuprous oxide.

Soon the *kethans* were ready. In pairs, male and female, they were laid on ten small squares of calico. The medicine man dug into his *zis* or medicine bag. Pulling out eagle feathers he laid them beside the prayer sticks. Beside these he placed the feathers of the mountain bluebird and the yellow warbler.

While he wrapped up the ten bundles and tied each with a cotton string Hunbaa loosened her hair and stripped to the waist. A basket of water made foaming by *tólounush* or soap-root was placed before her. Unfastening her turquoise and silver jewelry she dipped her *nítlizh* or "hard stuff" in the suds. Then she washed her entire body from behind the blanket held by her daughters.

Waving his buffalo-hide rattle Hastin DÍjólí began to chant. Rising to his feet he began to pick up the prayer-bundles. In quick gestures he laid the bundles one after the other on the patient's body. Fin-

ishing at the top of her head he rasped out an "Eee—!" as he zipped off the cords and threw the Evil Spirits out of the hogan smoke-hole.

Then an assistant started to paint between Hunbaa's breasts. Working with a small brush of wild bamboo he carefully worked from four small pottery vessels. When he finished with a small linear design on her forehead, he pulled away. On Hunbaa's chest there was a cleverly executed horned toad whose blue and yellow legs curved upward and over to arrow-points on her biceps.

Two *átsaa* or medicine baskets were laid before me. One was filled with a concoction of wild alfalfa and water. The other brimmed with water. Opening the bag filled with red ants Hastin DÍjólí said to me as he poured the squirming mass into the clear water, "See, Bahawana, they are hot! Stir them for me until I am ready."

Intent Navajo eyes gleamed in the darkness as the chanting shaman carried the baskets to Hunbaa. Accelerating the tempo of the drum he handed her the basket brimming with red ants. Stolidly the woman placed the rim to her lips. An ant bit her lips. Unflinchingly—she gulped down the basketful of red ants!

• • •

When I finished rounding up notes and sketches the sun had "reached the

top." Hastin DÍjólí and Kinyá'ani Nezha rode with me as far as the Sawmill Trading Post at Ní'ijih. Here the medicine man collected his fee for admitting me to the ancient rites of the Wóláchii. A hundredweight of flour and a few sacks of tobacco were agreed upon as ample pay for making it possible for me to witness the most amazing experience in my years with the Navajo.

Some months later I ran into Hunbaa while she was trading lambs at Fort Defiance. I asked of her health. She smiled as she answered, "I am recovered. Hastin DÍjólí's Red Ant medicine cured me!"

There was no question that the Navajo woman had experienced a miraculous cure. Deeply curious I dug into a medical reference. I found:

**FORMIC ACID.** A substance originally introduced into medicine because of its presence in the bodies of ants, who possess enormous muscular power. It is used as a nerve and muscle tonic.

Apparently old Hastin DÍjólí's treatment was not all exorcism of Evil Spirits. Nor did the painted horned toad on Hunbaa's chest draw out all the ant trouble. From the sage knowledge handed down to him from generations of Navajo medicine men he had cured the sick woman with a native medicine which is now specific in white man's pharmacopoeia.

*Hunbaa, the belt weaver who was cured in the Red Ant Chant. Rare photo. There are few belt weavers remaining, and this is one of the few pictures ever taken of a loom set-up. Photo by the author.*



# PRIZE STORY

This month Desert Magazine presents the fourth in its series of prize-winning personal experience stories which were selected in a contest conducted last summer. Tom Terriss of New York City tells of an adventure encountered in northern Arizona.

## *The Canyon of Death*

By TOM TERRISS

Illustrated by Charles Keetsie Shirley

**F**IFTEEN years ago I was touring Arizona with a native son who knew every inch of it and through whom I was able to see all its grandeur and scenic glories. Our last day was to be spent in the Canyon of Death, so called because of the massacre of Navajo women and children by a party of Mexican soldiers while their braves were away—150 years ago.

Just as we were about to start my

friend Jim Bannon, had a long distance telephone call. It meant his immediate presence, so the day's outing seemed to be doomed until Jim made the welcome suggestion that he take me to the canyon, leave me there for the day and return for me in the evening.

Early next morning we started and on reaching our destination, we took out the lunch basket. Jim jumped back into the car, threw in his clutch, tooted his horn

and with a cheery "So long, Tom, don't let them spooky caves get ya!" sped off down the valley.

I watched him as he disappeared over the desert wastes, then turned to face the grim forbidding walls of red black stone that ran in a ragged gorge for 25 miles. The sight filled me with a sense of deso-





lation and abandonment. Alone in a fantastic world of silence. The only life for miles around, a small settlement of Navajo Indians. Leaving my lunchbasket in the friendly shade of a rock, I started off to explore.

An unforgettable sight was before me. The walls rose sheer and ragged above me, from 500 to 1,000 feet. Countless ages had formed them into shapes sublimely beautiful. Here and there stood colossal pillars. Some of them crowned with architectural similarities of mosque or cathedral. Towers rose high into turquoise blue skies. Majestic monoliths reminded me that "our life is scarce the twinkle of a star in God's eternal sky." Truly a historic spot, where in the dim years past, Navajo and Mexican had fought as mortal enemies.

I spent the morning exploring the caves in which were burial places with their mummies intact, many of them adorned with valuable turquoise ornaments. Also there were articles of dress, arrows, domestic utensils, all of which are now on display in the American Museum of Natural History in New York City. Can you imagine with what interest I searched in these caves, vainly hoping I might stumble on some relic of importance overlooked by the explorers. Caves of all descriptions, large and small. Some of them with drawings carved upon the smooth rock. Pictures of birds, snakes, men, animals. Geometric patterns in pigment colors of white, yellow, blue, green, red and black.

With my morning's exploration finished, I stopped in a cemetery that con-

tained a multitude of burial graves, some of them believed to date back over 4,000 years. The mummies found here were so well preserved that the features were as lifelike as the Pharaohs. Like the Egyptians they were found bejewelled with necklaces, armlets and bracelets of pure turquoise and silver, beautifully designed.

Finished with my al fresco lunch I started out to explore the famous so called Mummy Cave. In ages past this was almost inaccessible. To reach it, the aborigines had to climb a sheer cliff by carved footholds they made in the rock. Much of that cliff now has fallen but it still is difficult to reach. To get to it involves an arduous upward crawl over a talus slope that spreads down over the rock for a distance of about 100 feet, which ends with a steep, almost vertical climb of 30 or 40 feet of rock, in which you dig into the old footholds carved by the Navajo. Reaching the top, I was compelled to rest for awhile, after which I arose and took in the magnificent view that met my eyes. Below me was the gorge, dotted with occasional cedar trees. The slopes were cluttered with jagged blocks of stone. Large spruce trees here and there resembled parlor Christmas trees. Facing me across the gorge, was another cliff rock, above whose towering cathedral expanse, shone a ribbon of deep blue sky. For some time I stood there, silently watching. Absorbed with all the grandeur and the majestic silences. In those few moments the ages were reborn, and there crowded through my consciousness scenes which in ages past that historic valley must have witnessed. Warfare and peace. Savage pomp and ceremonial. Feasts and dances. Tom-toms. The savage cries of Indian warriors.

My thoughts back again in the world of today I turned to explore the huge cave and the prehistoric village that rests inside it. Ancient buildings cut out of the solid rock. Most of them in ruins. One I came upon was almost intact. Open windows in diagonal form indicated three stories. I crawled into the ground floor of one and struck a match. Nothing was there, save some rubble, loose stones and dust. The least disturbance, where there



Charles Keetsie Shirley

had not been a drop of moisture in millenniums, stirred up a grey cloud, to breathe which was a menace to both life and comfort. Wandering on, I came to the spot where was enacted "the bloody massacre." On the rockwalls were some of the bullet marks made by the Mexican soldiers as they fired inside at their terrified victims. Since then, it is said, no Navajo ever has set foot in the cave. The Indians believe it is haunted and ever will be. The thought made me shudder.

I moved out to the big entrance again and looked out. Deep shadows were creeping across the valley. The color on the cliff opposite had gone. It had become a black and ominous shape. In the foreground the rocks struck by the waning sun were ablaze with ruddy gold. I was gazing on all this, spellbound, when upon the still air there came a sound, as though of rock being disturbed. The silence of the desert is so intense that with sharp ears you can hear the slightest sound. The rustle of a snake or the scurrying of a lizard.

I moved closer to the cave's rim intent on finding out what it could be, but saw nothing. As I watched, a feeling of peril swept over me, as I recognized that someone was climbing that last 30 feet of vertical cliff below me. Whoever it was might appear at any moment, so intuitively I moved back into the shadows—watching. Presently, over the edge, there appeared the head of an Indian, a rifle slung over his back. As he drew himself slowly over the edge, I said to myself, "Here is one Indian who doesn't give a hoot for the haunted cave."

He raised himself to his full height, unslung his rifle and examined it. What his intentions were I hadn't the slightest idea, nor did I mean to find out. I awaited developments. Resting himself upon a rock and with gun balanced on his knees, he sat there, silently watching, his keen eyes searching the desert. Motionless. His dark figure silhouetted against the framework of the cave and the blue sky beyond. Those were long, anxious moments as I waited. Several times I was on the point of revealing my presence but each time held back, instinctively sensing danger.

Suddenly he stirred, and rose. His attention was attracted by something. He gave one keen look, then lay flat on his stomach, his gun over the edge—pointed. I asked myself, was he just a hunter waiting for his quarry? If so, what kind of a quarry was it? Man! Or animal! How much I wanted to know. In an agony of suspense I waited—an endless time—it was probably only a minute or so until at last his gun spoke. A short pause and then several times more. Whatever was

down there he meant to be sure of the kill. There was another short wait as he peered over the rim and then as though satisfied, he rose, hitched the rifle over his shoulder and swung himself over the edge. As he turned to descend, he faced me for a moment—his glittering eyes directed toward where I stood in the shadows, as though sensing my presence. Those few seconds seemed an eternity. Then, to my unutterable relief he disappeared.

A considerable time elapsed before I dared walk forward and peer over the edge. When I did so, it was inch by inch—to discover he was gone. All was the same. The frowning rocks, the cedar trees, the gorge. All save one slight addition. A few hundred feet away, sprawled across the waste, was the body of a man.

The climb down that 30 feet of vertical rock was a dreadful ordeal. Wondering if the killer might still be around. Waiting for the ping of the rifle—and the end. Several times missing my footing, barely escaping a dangerous fall. But my alarm proved needless. No one was around, and soon I was by the body, to discover it was that of a white man, garbed in rough prospector's brown denim and laced top boots. He was quite dead. The Indian's work had been swift and sure. I covered the staring eyes with my handkerchief, sat down on a boulder nearby, and waited for my friend.

When Jim returned, we put the body in the back of his car and sped back to Gallup, the nearest town, where the dead man was quickly identified as "Mexican Pete," a desert rat, more at home with the Indians than the whites. The police put it down to some trouble with the squaws, surmising that some Indian brave had avenged his honor. He must have had strong reasons for this action or he would not have chosen the haunted mummy cave for his deed. Maybe there was a grim sense of justice back of it all. A Navajo slaying one of the enemies of his forefathers.

Anyway, the matter was dropped. The authorities knew they would never be able to identify the Indian without my help and this I positively refused. I didn't want to get mixed up with any racial feud. The police were just as well pleased. I've often wondered since, could I have saved the man's life had I let my presence be known. On the other hand, would the Indian, in his bloodthirsty desire for revenge, have killed me first, sooner than be denied of it. I wonder! Anyhow, I think it was a case where discretion was the better part of valor. Of one thing I am sure, I shall never again visit the Canyon of Death.

## Sez Hard Rock Shorty of Death Valley

By LON GARRISON



"I always maintain," began Hard Rock Shorty, "that if you're gonna tell a story, y'd just as well tell a good one. Ain't no use takin' it easy—folks'll believe a story better if it's stretched plumb out o' shape."

"I seen it work out right here in Inferno oncet. Pisgah Bill used to have a half-tame mountain lion he kep' in a cage over in front o' the store. He'd got this lion when it was a cub an' it never had been wild, but still an' all, the dudes was interested in it an' they asked more questions about it than Bill c'd answer."

"I was up there one day an' a dude from back in Ohio began askin' me about the lion."

"'Huh?' I says. 'The lion? Oh yes—the lion. Well Sir, there's quite a histry back o' that lion. He usta be the worst cattle thief this side o' the Sierras. We've had 'im eight years an' it's still quite a risk feedin' 'im."

"'My!' says the dude. 'My goodness! Tell me, how'd you ever catch such a ferocious creeture?'"

"'Well,' I says, 'that's another story again. Yuh see that there lion's tail? Well, most lions has long tails but this'n's about twicet as long as normal an' I caught 'im with that tail. I snuck up on 'im one day when he was asleep up on a hillside an' I tied a slip knot in his tail. I was just givin' it the last yank to get it tight when he woke up an' went boundin' away down the hill with his tail stuck back between his legs like a dog that's been tinned. He looked back between his legs to see if I was follerin' an' got his head in the slip knot in his own tail an' it choked 'im down so that if I hadn't hurried he'd a died right on the spot.'"

"'An' then he proved what I started in talkin' about."

"'Yuh know,' he says, 'if I read that story I wouldn't believe it but hearin' you tell it sure makes a difference!'"





*Early pioneers in the Southwest reported the Gila monster as found in parts of New Mexico, west Texas, Nevada, Utah, Southern California and Arizona. Now it is largely confined to the southern portion of Arizona.*

## *How Dangerous is the Gila Monster?*

Of the many tall tales which have come out of the Southwest, some of the "tallest" have been about the Gila Monster—most famous of the lizards. Weldon Woodson's curiosity was aroused when a friend repeated some of the fantastic stories. He tracked down all the available information in medical and scientific journals. He corresponded with doctors who had treated victims of the lizard's bite. He even added Gila Monsters to his own collection, to study their habits and characteristics. Out of his research have come conclusions which will surprise many who have heard—and naively believed, unscientific stories about the Gila Monster.

By WELDON D. WOODSON  
Photographs by Keith Boyd

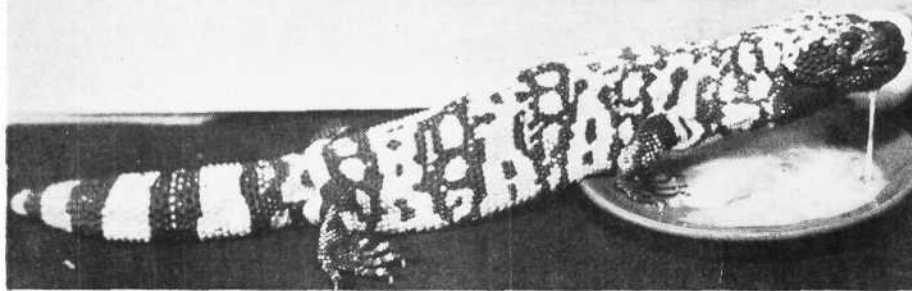
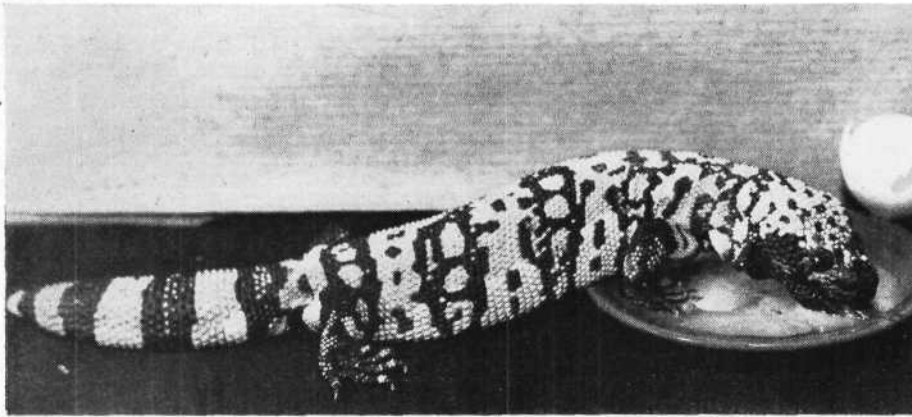
**F**RANZ Lang, my companion on a hike over a stretch of desert country some months ago, brought up the subject of Gila monsters. He had heard many conflicting comments concerning them. One person stated that this lizard when angered puffs and hisses,

froths at the mouth and blows a poisonous spray. This, so he was told, is fatal to anyone who stands nearby.

A number of people had informed him that the creature possesses no poison glands. Its evil reputation, they explained, is due to a peculiarity of its structure. It

has no means of excretion. It therefore regurgitates the waste matter, a portion lodges about the teeth, and it is this fermented material which enters the wound made by the bite and causes a swelling. Still others avowed that the reptile is even more venomous than the rattlesnake and should be killed at sight.

To answer Franz's queries, I launched an extended investigation. I added Gila monsters to my collection of reptiles, examined their anatomy, and observed their daily habits. I probed into all the available literature on the subject and found more than 300 references to the creature. I learned that English, French, German and Mexican scientists had made a study of it. I corresponded with a number of doctors in Arizona and neighboring states. All gladly told what they had learned about the Gila monster and ex-



*In captivity the Gila monster may be fed a beaten-up egg. It swallows by lifting its head and letting the liquid egg run down its throat by gravity.*

pressed a desire to know more in regard to its poisonous nature.

I also had personal conversations with a number of doctors who had made a special study of the creature. One of these, formerly of Arizona, was with the United States medical corps and stationed at a palatial residence near Los Angeles which had been made into a convalescent home. With a Gila monster in a cage tucked under my arm, I visited him there.

We hardly had seated ourselves in commodious chairs on the porch which stretched entirely across the front of the mansion, before several of the convalescing soldiers asked to see the lizard. With a twinkle in my eye, I asked a friend who accompanied me to take charge of the exhibition. He always had been a little fearful of lizards, even the harmless varieties. Yet with the skill of a veteran herpetologist he yanked the lizard out of its container, carried it to the lawn, deposited it upon the grass, and proceeded to give details concerning its life and habits to a score or more of the service men who had congregated.

Soon the men themselves took the Gila monster under their care. As the doctor and I compared our findings, I glanced up once and saw a soldier holding the Gila monster over the lily pond while it sipped water. Another time I observed the soldiers, in their turn, examining its peculiar bead-like hide by running their

hands over it. When I was ready to leave, and as I gathered up my lizard, they in a chorus said, "Many thanks, friend. Come again. And bring your pet along."

This unusual interest in a lizard found only in the Southwest and almost wholly



*The author became careless, handled the Gila monster too roughly, and it bit what fortunately turned out to be a fold in his trousers.*

in southern Arizona, testifies that animal life in the desert holds a real fascination.

I learned from my investigations that the assertion that the creature's breath is poisonous is pure fancy. It is but one of the many superstitions and myths that have been built around this lizard. Indians of Utah at one time declared that the Gila monster at will produces good or bad weather and therefore it never should be harmed.

It has been said that the Navajo Indians copied the pattern for their blankets from the patchwork of small salmon and black beads, which, set next to each other, form its hide. Some folks believe that every letter of the alphabet may be traced in the markings of its skin.

Geologists have discovered stones on which were drawings that depicted men running from an angry Gila monster. It is not uncommon for Mexicans and Indians to kill one and then hang it up by the neck on a bush so that it cannot touch its feet. They will leave it there until it is fly blown or smells. Only in this way are they certain it is dead.

The oft-repeated claim that the Gila monster lacks an excretory system is erroneous. For proof one needs only to turn the creature upon its back and closely examine its underside. Approximately where the abdomen ends and the tail begins may be seen a slit which runs crosswise. This is the cloaca. A number of scientists have "taken the Gila monster apart" and noted that it has a complete digestive system. Others have kept the creature in cages and observed that their food is digested at fairly regular intervals in the same manner as other animals.

Their diet in captivity is a beaten-up hen egg served once a week if the Gila monster is 12 or so inches in length and twice a week if it is 16 inches or more. It hibernates during the late autumn, winter and early spring, and like a camel draws upon the fat stored in its thick blunt tail.

Mrs. Boyd, wife of my photographer, Keith Boyd, protested vigorously when she learned that the Gila monster demanded such a delicacy as a hen egg. I had given Keith a specimen, and she discovered its food needs when a hen egg was missed from the crock in the ice box. Her husband has collected snakes, spiders and other denizens over a period of a decade. Their food requirements were met with swifts, skinks and other lizards, with sow bugs, grasshoppers and such insects. "But this Gila monster—well," she finally conceded, "it is a real prize and maybe it does deserve something special."

Whether the Gila monster actually is poisonous has been a controversial subject for almost a century. Among early investigations were those by John Edward Gray



of the British museum (in 1857), Prof. E. D. Cope (who gave the Gila monster its scientific name *Heloderma suspectum*) and Doctors S. Weir Mitchell and Edward Reickert. The latter two were physicians of Philadelphia who in 1883 reported the results of a series of careful, controlled experiments with Gila monsters.

They discovered that poison was contained in saliva secreted from the lower jaw, which contrasts with that of snake venom which comes from the upper jaw. They also learned that some of the teeth were grooved in front and behind, and that these minute troughs carried the venom into the wound made by the bite. They took tiny amounts of the venom and injected it into pigeons and small animals. This caused the creatures to die within a few minutes.

Some years later the Carnegie Institute sponsored experiments by Loeb, C. L. Alsberg and a number of associates. They found that 5/100 cubic centimeter of fresh, or 5 milligrams of dried, Gila mon-



*Weldon Woodson in a playful mood with the Gila monster. Apparently they are attempting to hypnotize each other.*

ster venom when injected into a guinea pig killed it. They observed that birds and mammals such as rats, rabbits, mice, dogs and cats were more sensitive to Gila monster poison than cold-blooded creatures like frogs.

In a typical case of a warm-blooded animal receiving a deadly dose of Gila monster venom, the most noticeable effect is a disturbance of breathing. It becomes progressively difficult until shortly the animal collapses and dies. The reactions in some respects are similar to those from cobra snake poison, but the effects are much weaker.

The important question, however, is just how dangerous is the Gila monster's bite to man? I have at hand a number of case histories as reported by doctors in their letters to me. One tells of a healthy man, about 20 years of age, who captured a Gila monster and was seized by the thumb as he attempted to thrust the creature into a sack. The lizard released its grip only after the man's companion

*No two Gila monsters are alike in color pattern. Observe the contrast in design of these two specimens. Some Indian blanket designs are said to have been inspired by such patterns.*



pried its jaws apart with a screw driver. A doctor treated the bite about 30 minutes later, and "recovery was prompt."

Another case concerned a young man who, ignorant of the nature of the Gila monster, captured one and tucked it inside his shirt in order to carry it easily. The creature bit him upon the chest. The wound appeared infected and inflamed, and the patient suffered a moderate degree of pain and shock.

Another mentions a cattleman who caught a Gila monster, tied it onto the back of his saddle and proceeded on his journey. As he did so, one of his hands swung back—and into the creature's

mouth. The pain that resulted from the bite was severe, but complete recovery eventually took place.

A search of medical journals, scientific reports, popular magazines, books and newspapers resulted in more than 300 references to the Gila monster. The number of recorded case histories totalled 47. They took place between the years 1882 and 1939. Fifteen ended in death. Only one of these however was thoroughly investigated, and it was noted that the victim previously had had a weak heart and drank to excess.

The information in regard to the remaining 14 deaths consisted mostly in the

mere statement that the narrator knew, or had heard, of some one who had died from the bite of the Gila monster. Two of the 47 case histories were children, three were women, and the rest were men. The effects from the bites included pain at the site of the wound, swelling, headaches, nausea, convulsions, fainting, perspiration and paralysis.

One should keep in mind several factors as he considers these symptoms. The bite from the Gila monster's powerful jaws alone may result in bruised flesh and skin that might develop into a serious wound. The saliva contains many bacteria which may enter the wound made by the teeth. Some persons if bitten might become seriously ill due to sheer fright of the Gila monster.

There nevertheless remains the possibility that this lizard at times has induced its poison into human beings. But it can do so only with great difficulty. The poison comes from the glands, mixes with the saliva, spills over the gums of the lower jaw, and only a small amount is likely to be forced up the grooved teeth and into the wound. The Gila monster may work some of the poison in as it chews whatever it grasps. It sometimes twists itself around in an upside-down position as it holds onto an object. The venom from the lower jaw in this way can flow down.

But one should have little fear of being bitten by a Gila monster. They never attack man unless he deliberately or carelessly annoys them. In the wild they will open wide their jaws and angrily hiss if teased.

Although well aware that the Gila monster will take a limited amount of abuse, I nevertheless recently made the mistake of handling one of my specimens too roughly. Photographer Keith Boyd and I were out in some desert-like country to take a group of pictures of my Gila monster. I climbed several embankments, all the while tightly holding the creature just back of the jaws. It was decided that I should pose with the Gila monster—freed—stretched across my knees. Keith snapped the picture. Barely had the shutter clicked before the lizard, hissing and drooling saliva, swerved around, crawled up my right leg, and bit into what fortunately was a fold in my trousers just below the waist. It required 20 minutes to pry the lizard loose.

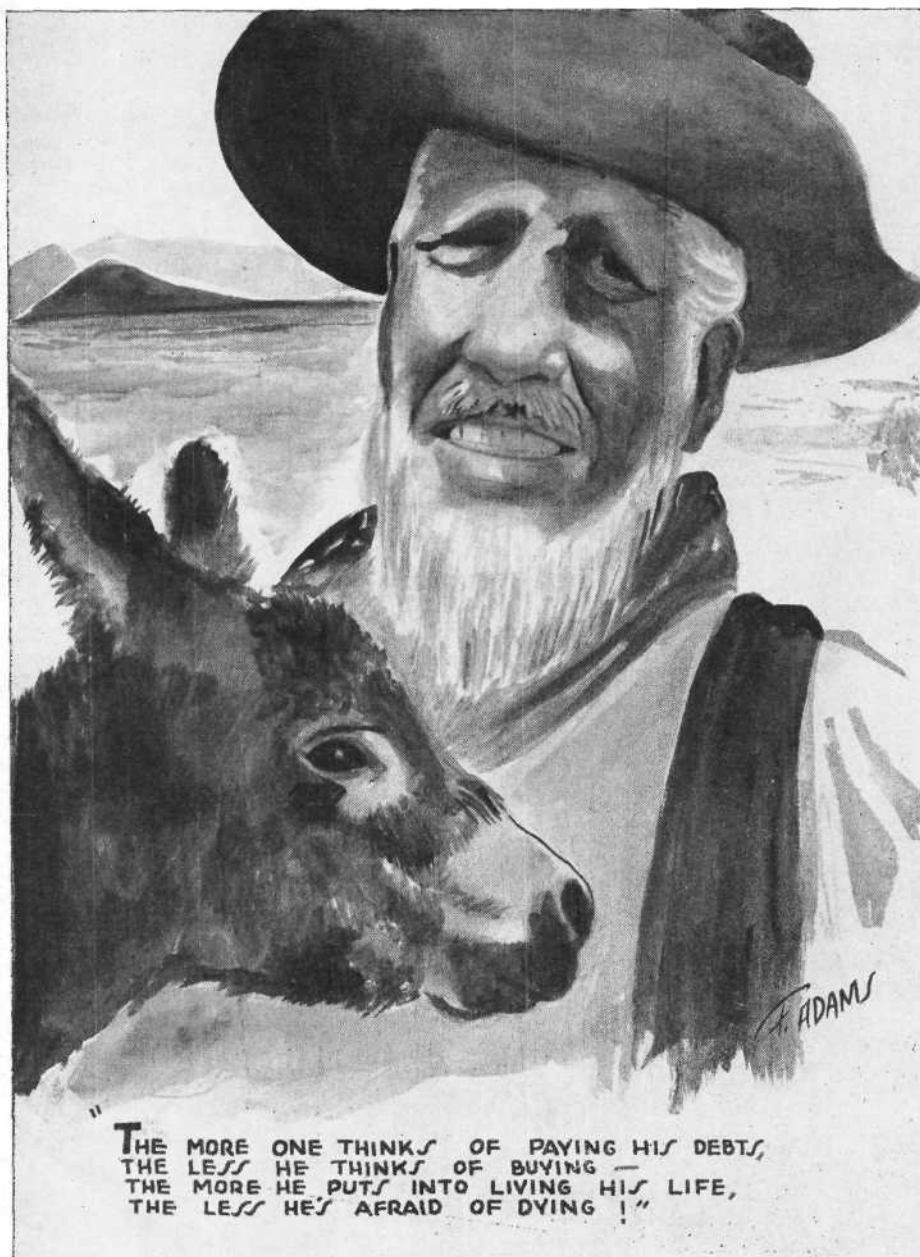
Early day pioneers reported the Gila monster to be found in sections of Southern California, Utah, New Mexico, and Arizona. Now they are limited largely to southern Arizona. There is a possibility that some day the Gila monster will become extinct. This can be prevented if lovers of desert life will make it a practice to tell their friends that the Gila monster, after all, is a "monster" only in name.

## Desert Philosopher . . .

SOLILOQUIES OF A PROSPECTOR

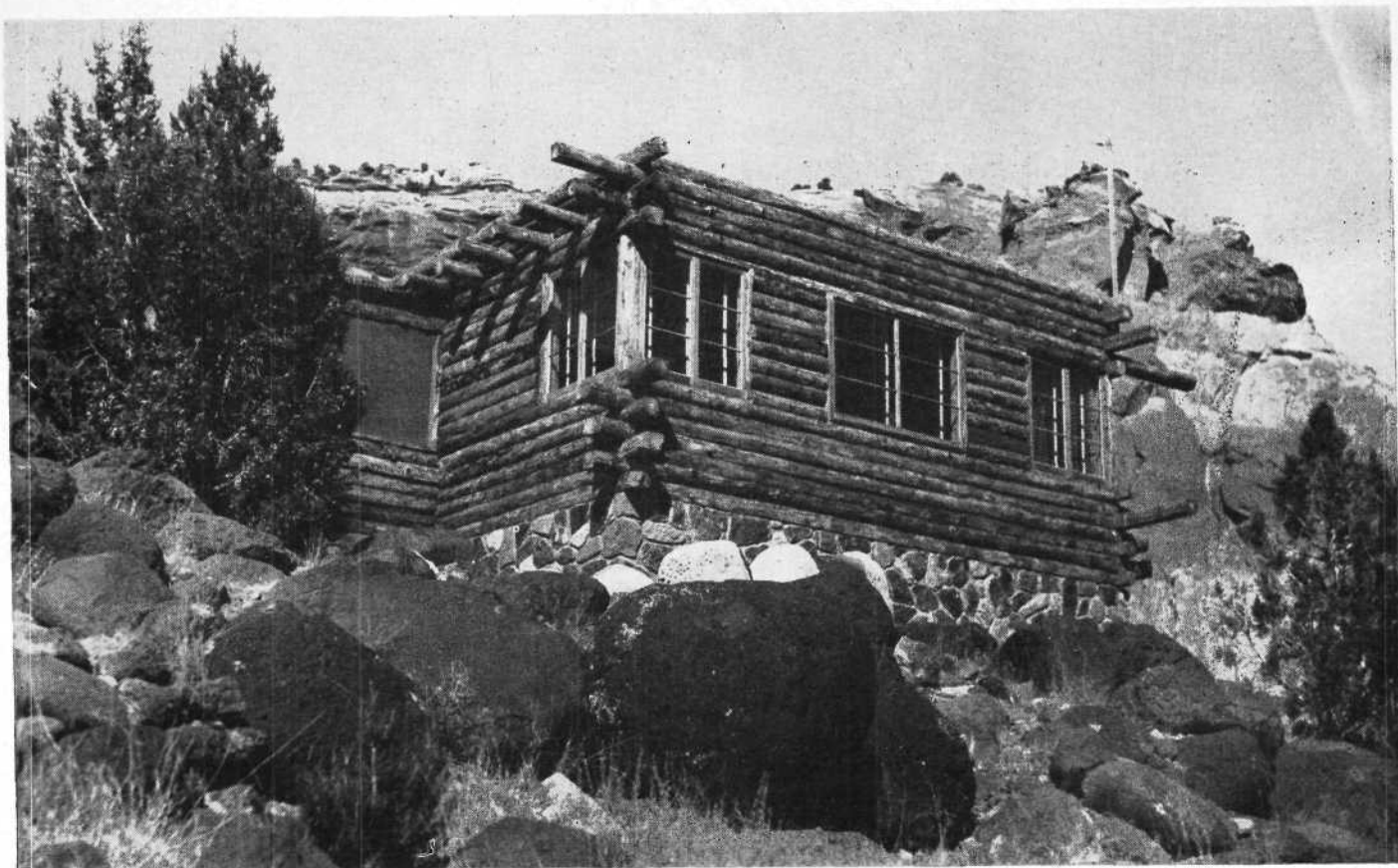
Drawing by Frank Adams

Text by Dick Adams



"THE MORE ONE THINKS OF PAYING HIS DEBTS,  
THE LESS HE THINKS OF BUYING —  
THE MORE HE PUTS INTO LIVING HIS LIFE,  
THE LESS HE'S AFRAID OF DYING!"





*Built of house logs, the home of Lurt and Maggie Knee blends with its desert background.  
Not a rock or shrub was disturbed.*

# *Dream Home in a Utah Valley*

Lurt and Maggie Knee traveled to far corners of the desert for nearly five years—seeking the location for their dream home. Then one day, in southeastern Utah, they followed a dim trail leading through a wild terrain of red rocks, broken cliffs, deep canyons and sagebrush mesa. The steep trail suddenly opened onto a hidden valley. They knew their search had ended. Here is the story of how they built their dream home in a “private paradise.”

By CHARLES KELLY

**D**ID you ever have the urge to leave the world to its fate and find some secluded spot on the desert beside a mountain stream where you could plant a garden in the rich red earth? Have you ever longed for starry desert nights and the cries of coyotes on a far off hill? Have you ever yearned to breathe the tangy fragrance of summer rain on desert sage? Have you ever dreamed of building a home on the desert where you could live undisturbed by telephones, salesmen and politicians?

Most readers of Desert Magazine no doubt have had such a desire at one time or another, but it remains only a dream

and few ever have done anything about it. But more and more men and women are turning their eyes toward the desert hoping to find a retreat where they can preserve their independence, sanity and health. This is the story of a young couple who dreamed of a home on the desert and set out to make that dream come true.

The young man was Lurton Knee, from the Pacific coast. The girl was Margaret Tracy, from the Atlantic coast. They met in Monument Valley, one of the most isolated and romantic spots in the whole Southwest. Lurt was visiting his sister, Mrs. Harry Goulding, and “Maggie,” as she likes to be called, was on a vacation

in the Navajo country. They had one strong common interest—a love of the wide open spaces—so they decided to get married.

Lurt's business was installing wind chargers and electrical equipment on isolated ranches. Within the next few years he and Maggie had visited nearly every corner of the desert, living in a trailer house. But a trailer is only a temporary convenience, not a home. As they traveled from place to place they looked for an ideal site where some day they could build their dream home. At the end of five years they still hadn't found just what they wanted.

Then one day they found themselves on the summit of Boulder mountain in southeastern Utah. Below, as far as the eye could see was a desert of red rocks, broken cliffs, deep canyons, sand and sagebrush. A beautiful little stream dashed noisily down the mountainside. Nearby was a dim trail which seemed to follow the general course of the stream. Without know-

ing where it led or whether it was passable, they decided to follow it.

The trail proved to be an abandoned logging road, never designed for automobile traffic. As they zigzagged down the mountain it became increasingly rough and dangerous. Reaching the foot of the mountain they continued on into broken desert for what seemed endless miles. At last, just at sundown, they came to a beautiful little hidden valley watered by the stream they had been trying to follow. Smoke curled from the chimney of a rude cabin shaded by big cottonwoods. Cows were grazing in a field of green alfalfa. Ducks were paddling in the creek and in the distance they heard a rooster crow.

"Look!" said Maggie as Lurt stopped the car. "This is it. Here is our home!"

"Yes," Lurt replied, "this is what we have been hunting for. It looks just the way I thought it would."

They camped that night at the little desert ranch and in the morning looked it over more thoroughly. There were enough tillable acres to insure a good living, an unlimited water supply, and the little valley was enclosed in a magnificent amphitheater of sandstone cliffs.

So they bought the place and after settling their outside affairs, returned to begin building their dream home. Instead of locating it under the cottonwoods along the creek they selected a site on top of a high knoll overlooking the little valley where they had a marvelous view of Boulder mountain to the west, the Henry mountains in the east and much of the colorful desert between.



*A corner of the Knee home, overlooking their little ranch in a Utah valley.*

There was no water on the hill, but this problem was solved by digging a large cistern and installing a pump to raise water from the creek. With boulders removed from the excavation they built a foundation and a large fireplace. The walls were made of house logs, sawed on three sides and laid in cement to keep out

wind. Heavy log beams formed the ceiling, over which asbestos was laid. Wide windows, each framing an attractive desert landscape, furnished an abundance of light.

A large living room occupies most of the floor space, while bedroom, kitchen and bath take up the remainder. There are two screened porches and a cemented basement. During construction every rock and native shrub was left undisturbed, so that the finished home, with its rustic exterior, blends perfectly with its desert setting.

The big ornamental fireplace is built with a circulating air system so that a few chunks of pinyon pine, plentiful in nearby hills, heats the whole house perfectly. A windcharger furnishes current for illumination and household use. An automatic pump provides water pressure, while hot water is furnished by an automatic oil heater. Kitchen and bath are as convenient as in any city home.

From their hilltop home the Knees can overlook their little green valley, count the pigs in the pasture, the cows in the corn and sheep on nearby hills. There are gamy trout in Pleasant creek and deer come down to nibble in their alfalfa every night. Their fields and garden produce almost everything they need. Pleasant Creek ranch, they think, is the one perfect spot in all the wide desert.

Unlike most young couples, Lurt and Maggie Knee have no illusions about the future. They never expect to become wealthy. They live on the desert because they like it.

*"This is it. Here is our home!" exclaimed Maggie when she and Lurt discovered this hidden little valley on Pleasant Creek.*







*Lurt and Maggie with "Smoky" in their desert home.*

*Fireplace in the Knee home which comfortably heats the whole house.*



Somewhere in the desert, still on the trail of a new home, Marshal South pauses to pay tribute to the host of Desert readers whose friendship has brought both inspiration and encouragement to the South family during the uncertain and often disappointing days of their search. From New York state, Oregon, New Mexico—from every part of the country where there are desert lovers, have come letters and telegrams to hearten and encourage them. . . . If any of the Souths' friends wonder why their letters are still in that bulging sack of unanswered mail being hauled along the desert trails, they will know this month it isn't because they were not deeply appreciated.

# Desert Refuge

By MARSHAL SOUTH

ON THE trail—somewhere in the desert. This is written in the shade of a cottonwood tree that lifts a crest of green into a crystalline sparkle of morning sunlight. Carpenter bees drone in the belt of shadow and the stir of a faint breeze trails wisps of smoke from the dying breakfast fire across my feet.

The tangy aroma of dry burning creosote sticks. Some people don't like it. The greasewood—or creosote bush—has had hard things said about it. Even grizzled old prospectors have been known to display an amazing vocabulary of explosive words over the presence of a few accidental creosote leaves in the coffee brew.

Yet the creosote, to those who love the desert for what it really is, is a shrub both respected and admired. It fills a place in desert scenery for which no other growth can substitute. To us, those sections of the wasteland where the creosote does not thrive, carry a sense of incompleteness. Poets have sung wistfully of longings for the sight of pine trees, for glimpses of ferny dells, of cravings for the sight of clambering roses. I never have known such heart tugs. But I have been often acutely homesick for the sight of creosote bushes.

I can remember arousing the wrath—and I believe pity—of a good eastern friend, by dividing the map of the United States into two sections, or rather, two regions of climate range. The pink shaded portions—all the area in which creosote bushes could exist—were the "abode of the blest." Everything outside was a howling wilderness—unfit for human habitation. That was a good many years ago, and passing time has mellowed the edge from youthful intolerance. I no longer draw maps to hurt the feelings of those whose tastes differ. Yet I still think that the creosote bush is emblematic. Its range defines the boundaries of a "home-land" outside of which I am heavy hearted. And I still think that a creosote bush in full bloom in the desert spring, is one of the most beautiful shrubs in the world.

Out of the picture galleries of memory I can call up many beautiful recollections of blooming creosotes. But one such picture always will stand out sharp above the rest. It was on the occasion when I was trekking home to Yaquitepec with the two burros, Rhett and Scarlett, whom I had brought from Paul



*Rider and Rudyard take time out to practice with their bows and arrows.*

Wilhelm's Thousand Palms Oasis, away over beyond Indio. It was near the end of the trip. We had come a long way that day and we were tired. My two faithful four-footed friends, seasoned though they were, were stumbling. And I was footsore and unutterably weary.

As we plodded up the grade, winding up from the desert land into the lower reaches of Sentenac canyon, the sun was setting. Blue shadows were gathering against the towering steeps ahead and the canyons and gullies were eerie chasms of indigo. Across the mountain crests the last shafts of the sun struck through the rising evening greyness like the level beams of searchlights stabbing through mist. And there, by the side of the road, as we started up into the gathering dimness of the pass, stood a great creosote bush in all the magnificence of late full bloom. It was in the direct path of a shaft of sunlight that fell upon it from a gap in the westward mountains and covered it with glory. Against the background of the blinding rays that flooded it and flung it into a tracery of delicate silhouette, it stood as an ethereal thing, a thing wrought not from plant fibers but from flashing precious metals. Drenched in a glow of gold and silver from its myriad yellow flowers and tufty white seed globes, its maze of interlaced slender branches and glittering green leaves lifted against the sun-flare in a brilliance that was almost blinding. The thing was breath taking. We all stopped. Perhaps the burros stopped because they were tired and because I had stopped. I do not know. But I know that it was not because of weariness that I halted. The action was involuntary. I felt as though, for a flash, I had *seen something*. Such flashes bring one very close to God.

We went on presently. Winding up into the velvet dimness of the pass where owls had begun to hoot to each other from wall to wall across the rocky canyon sides. Night rolled down



from the peaks as we plodded on. But somehow I didn't feel half as weary as I had before. And, from whatever reason, even the burros were stepping more briskly. Just a creosote bush against the sunset. Sometimes I wonder how long man will seek his assurance of immortality in musty books and in gloomy temples of man-reared stone, when the evidence surrounds him on every hand, in every vista of wonder and of beauty which the world of the outdoors holds.

The sun is climbing across the sky. The shadow of the cottonwood under which I sit has begun to break up into a filagree pattern through which, on the warm earth, ants scurry exploringly. Heat waves dance and shimmer along the distant ridges. And through the still air the voices of Rider, Rudyard and Victoria rise sharp and clear as they prowl around the camp, seeking treasures and adventure among the rocks and bushes and mesquites. For them this home-search could go on indefinitely. Their eyes and hopes are always fixed on far and new horizons. They do not want to stop searching. It is too gloriously exciting. Yet we have a feeling that the goal—and the decision—is not now so far off. Perhaps we too shall miss the thrill of seeking through the desert and following new trails when we cast anchor. But there will be compensations. It is good to root down for a while and weave a thatch above one's head and call it "home."

Yet there is joy to seeking. Joys and surprises that spring up unexpectedly to cheer hard trails as though with a magic bloom of flowers. If there is one thing more than another which has heartened us, since we set out on the trail from Yaquitepec, it has been the realization of the great invisible bond of friendliness which binds all desert dwellers and desert lovers into one solid fraternity. A cheerful clan, eager and warm-hearted and friendly.

Never has it failed that when disappointment struck at us, or when trails ahead looked bleak, desert friends always were on hand to lift the gloom, either by personal word or by letters or even by telegram. "Do not be disappointed. It is always

darkest before dawn," wired a good friend from Nevada who learned of our unexpected set-backs. "There just *must* be—and is—a right location somewhere for you and yours," writes another friend from California. "I'm going right along with you, in fancy. And I know that soon you're going to have a glorious find," says another in New York state.

And so it goes . . . New Mexico and Oregon and Arizona and Utah—and from every other state and section of the desert country and country that is not desert—everywhere where desert lovers dwell—have come crowding messages of friendship and cheer. We are lugging around with us a bulging sack of unanswered mail, over which we sweat nightly in the accusations of conscience that we get it answered so slowly.

Would not even the chill heart of a stone image be thrilled and quickened by the magnificent backing of such a clan of friends?

How can one lie beneath the soft glow of the desert stars at night without feeling these loyal friends, in spirit, at one's side? How can one listen to the desert night wind whispering around the shadows of the swaying tent—a tent which was itself a friendship gift shipped to us from a dear friend in Pasadena, California, whom we have never met but whose letter reveals her as a true initiate of the deepest philosophy of the desert silences—how can one lie and hearken to these soft whisperings of the wasteland wind without seeming to hear in them the actual, cheering speech of this assemblage of friends, both near and far, whose hearts are with us? It is a feeling that does something to you, this strange mystic sense of brotherhood.

There is the sound of grinding. Out by the car, where the little hand grain mill is attached by wing-nut bolts to its "on the trail" position on the running board, Tanya is grinding flour from the hard small-grained red wheat that was raised in the fields of Juab county, Utah. Victoria has gone to sleep on a blanket, stretched beside me in the shade of the cottonwood.

In another section of shadow Rudyard, his pudgy nose wrinkled in desperate concentration and a stub of pencil clutched in his little fist, is trying to transfer a bit of desert scenery to paper. Near him Rider, squatting upon the warm earth and tracing designs with a bit of stick in the dust, is trying to figure out how one could invent a new type of speedometer, which would record distance by a complicated system of knotted strings and revolving drums.

Away off among the bushes, thinking himself secure from observation in the black blot of shadow at the base of a creosote, a roadrunner dozes. Hush holds the desert. With a stab of heartache for those who would long to be back within the tranquillity of its sunlit borders—and for the present cannot come—one recalls the Navajo prayer:

"That it may be peaceful before me; that it may be peaceful behind me. All is peace. All is peace."

#### HOPE

*What is Hope? The first grey streak of dawn,  
The silver dewdrop on the parching leaf,  
A new-born babe, the breath of spring, the fawn,  
And light divine that waits this earth-life brief.  
Just as a flower unfolds unto the light,  
So Hope unfolds the tendrils of the soul,  
And crowns the hardships and the bitter fight  
With that bright radiance which is our goal.*

—Tanya South

#### NEW YORK READER WANTS COLORED PRINTS OF YAQUITEPEC PAINTING

Fultonville, New York

Dear Miss Harris:

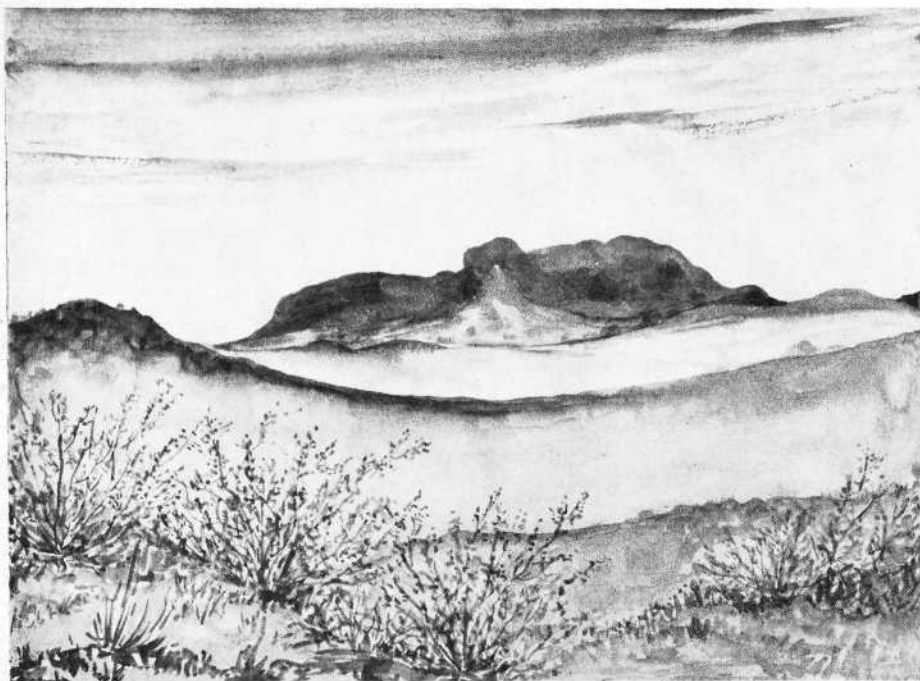
In our June issue of Desert Magazine you had an item about an oil painting of Yaquitepec by Thomas Crocker.

Will it be possible some time in the near future to have some colored prints made of the picture, so that we who are interested in Mr. and Mrs. South and their family also can have a memento of their Ghost mountain home. I think their reading friends felt a tug of the heart strings when they learned the little home was deserted.

MRS. ANNA C. BOSTWICK

#### NOTE FROM MARSHAL SOUTH—

That was certainly a pleasant surprise. We're going to make the pilgrimage to DM office some of these days just to see the picture. Mr. Crocker does some wonderful desert work and we're particularly happy it was his brush which put Yaquitepec upon canvas.



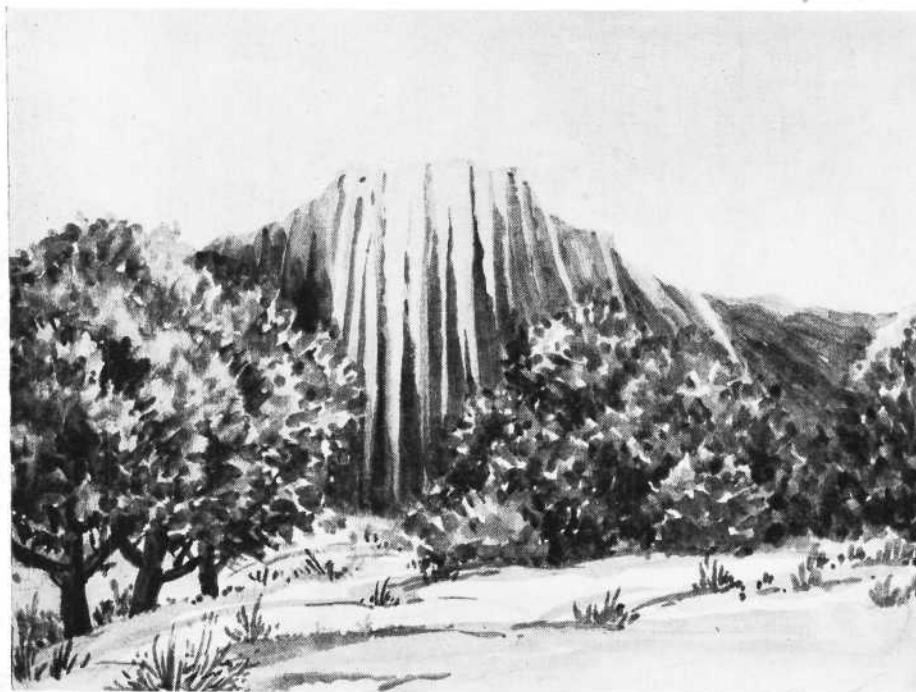
*In the evening, against an orange-colored sunset, mountains appear indigo blue from the effect of contrast and subjective color.*

**M**Y FIRST meeting with the desert took place early one calm brilliant morning when the sunlight seemed solid enough to be sawed up into amber pipestems. Everything was exactly as I would have had it: an orderly arrangement of things, beautiful, interesting and strange. I had come to the desert by train in the night. You don't see the real Arizona desert until you are south of Kirkland and this part of my trip was in pitch darkness. Next morning I felt like

a man on another planet where giants in jade green armor stood on the skyline and held out long arms in a sort of universal semaphore code that I half understood. The desert and I *liked* each other.

Later I learned that the giants were saguaros, giant cacti, and no name ever fitted any object to greater perfection. I should have known that these stately things were saguaros. Between the saguaros were other strange plants, some like octopus with their arms in the air—

*A red cliff looks redder when seen through a clump of cottonwoods—the result of contrast and subjective color.*



# Desert

One cannot think of the desert without thinking also of its remarkable coloring. It is in the desert that the phenomena of light and color produce their most extreme effects. Yet this all-pervading element of color is illusive and little understood by the layman. To contribute to greater enjoyment and appreciation of the desert, Jerry Laudermilk, in terms of both scientist and artist, explains the factors controlling the color of sky and clouds, of earth and vegetation and of the atmosphere.

By JERRY LAUDERMILK  
Wash drawings by the author

ocotillos. Others were like fantastic compositions in ornamental ironwork with bronze leaves—creosote bush. Here and there some little stumpy devils with red whiskers—bisnagas—furnished just the right touch of the sinister to liven up the landscape, like the pepper in a tamale.

I began to study the desert. Color and color harmony were among the first of its features to rivet my attention. I wanted to understand more about this feature which is so large a part of the desert's ineffable beauty.

The causes of the desert's color are capable of being neatly classified in tiresome tables. To itemize these features would be like describing your best girl's good looks by her Bertillon measurements. But before we start discussing the cause of all this color it might be a good idea to know what it is we are talking about. The source of all color lies in the constitution of white light, and the mechanics of its production is as follows:

## Source of Color

Brilliant sunlight is white and its whiteness results from the blending of waves of different lengths. This mixture of waves affects the retina of the eye and a certain area of the brain to produce the sensation of white light. But remove all but some particular wave-length and the result will be color. Every possible shade of color from red to violet is to be found in white light. Suppose white light falls upon an object which absorbs all the wave-lengths except red, then only red waves are reflected and the object looks red. When an object absorbs everything



# Color

but the green waves, these are reflected and the object appears green.

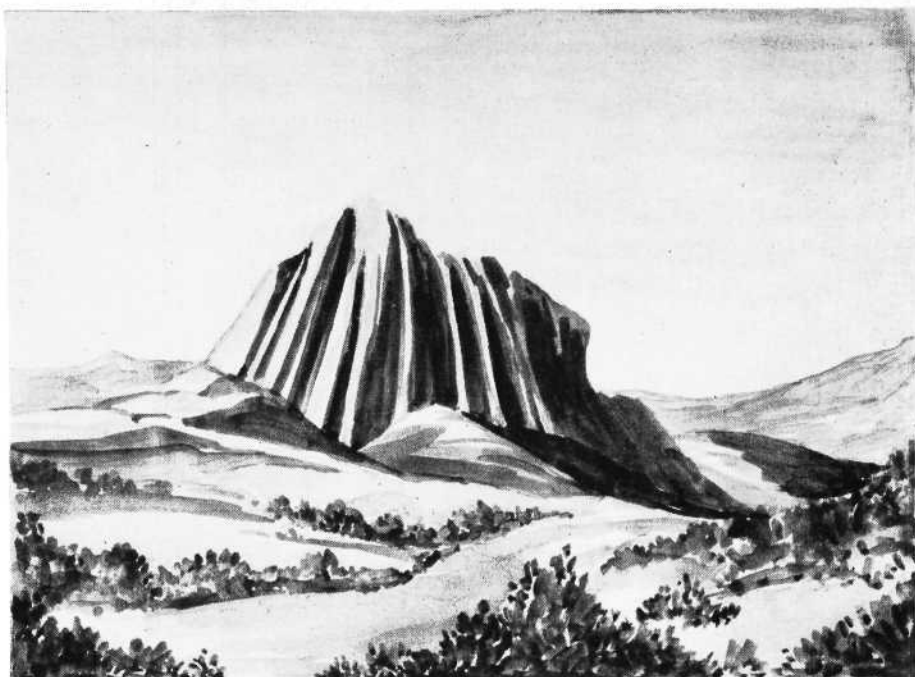
Now, here, I want to call attention to the constitution of color as the artist sees it and how his reactions "jibe" with the facts. So far as the artist is concerned red, blue and yellow are the primary colors. You can't make any one of these colors by mixing any combination of pigments. Green, orange and violet, made by mixing any two of the primary colors are called secondary colors. When we make any of these colors by mixing colored pigments, the color we see is not the result of mixing colored light. Blue and yellow pigments mixed produce green, but if you mix blue and yellow light the result is white.

What takes place when pigments are mixed is rather "tricky." Suppose you mix zinc yellow and cobalt blue. The result will be a nice shade of green and—here is the denouement of the story. The yellow particles absorb the blue and violet waves while the blue particles absorb the yellow and red, consequently there are no waves left to be reflected except green. The green you see in the case of mixed pigments is residual green—green waves with no place to go except your eye. Here seems to be a good place to take up the causes of another set of phenomena, all related and all contributing to the color of the desert: clouds, the blue of the sky and atmosphere and the colors seen at sunset.

## Clouds—Sky—Sunset

When white light falls upon a substance which absorbs none of the waves, such as a chunk of quartz or limestone, they are all reflected, still mixed, and the object looks white. Now, when rather large particles of a reflecting substance, tiny drops of water for example, are suspended in air, white light striking the particles is scattered and the entire clump of particles appears white—white clouds for example. But when the particles are extremely small, only blue waves are scattered and the clump or aggregate, looks blue, as cigarette smoke does for instance.

For a long time, it had been thought that sky or atmospheric blue was the result of scattering of the blue waves by tiny particles of dust, but more recently it has been proved that even pure air without the slightest trace of dust is the source of its own blue, due to scattering of the blue waves by the molecules of the air



*Distant shadows are ultramarine blue. Look at some far off butte through a pair of out-of-focus binoculars—the shadows are bluer than the sky.*

itself. Dr. R. W. Wood, in his book, "Physical Optics" brings this point out and describes a simple apparatus to show this production of blue in a dust-free gas. It is a curious fact that several early observers, Von Humboldt, the elder Lord Rayleigh and others had logically concluded by interpretation of the evidence and with experimental verification, that dust had nothing at all to do with atmospheric blue except to tone it down.

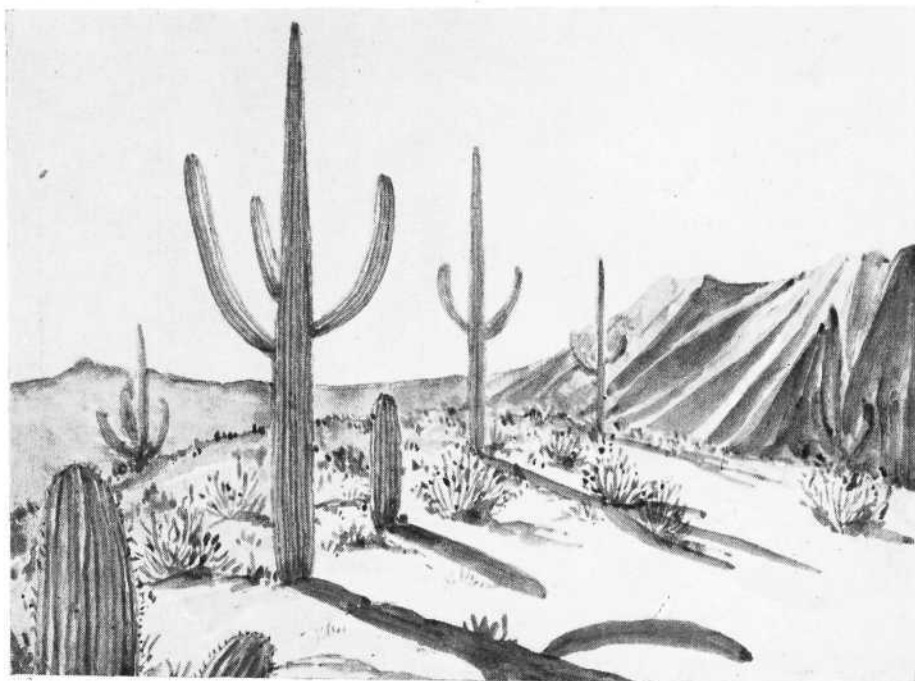
Dust is important, however. It is the cause of the brilliant red and orange sun-

sets we see in the desert. Much of the blue is scattered by the air itself, but the longer waves wriggle through. When the lower strata of the atmosphere are filled with dust, only the red, orange and yellow waves are able to penetrate the dust mantle. Now that we have a practical working knowledge of color I will get on with my story.

## Basic Desert Color

The general tone of the desert is "colder" than it at first appears. We are

*Shadows close by are blue when cast by bright sunlight on light-colored soil; they are also luminous.*



apt to visualize it as a warm tan or even reddish. But actually, considered altogether, the soil of the desert is a rather "cool" beige, a light greyish brown cooled off with a good deal of white like a brown paper sack but whiter. The color dictionary has a perfect match for this tint, its official name is *Arizona*. Nothing could be more appropriate. Of course, the desert's color varies greatly in different places. Some are decidedly yellowish, others reddish, some even steel grey or blackish. But, if in a locality of what may be called typical Southwestern desert, you get up early some bright summer just before sunrise you will see that the general background of the desert is pale in color.

This basic soil-color, which tones all desert landscape, is the result of many factors. Soil of course is made up of mineral fragments large and small, produced by the weathering of larger rock-masses; even mountains slowly crumble to dust under the continual gnawing of the weather. In most cases, fine or powdery soil predominates. When rocks are powdered, even dark-colored rocks, the dry powder is lighter than the rock-mass itself. An apparently black basalt may grind to a grey powder. This paling of the color is due to dilution by white light reflected from the facets of the tiny mineral particles.

Particle size and reflection are but two reasons for the generally pale color of desert soil. A third is that much of the soil is made up of light colored fragments, feldspar and even pure quartz. The warm color that does appear: red, yellow, orange and brown, the last simply a shade

of orange toned down with considerable grey, is due to iron.

Fourth, after the elements oxygen, silicon and aluminum, iron is so much the most abundant substance in the earth's crust that we see the effect of its presence everywhere. Iron makes many highly colored and beautiful compounds. With oxygen alone, it forms "ferric oxide," the mineral hematite; you can see this color, persimmon to maroon, in well-baked bricks or terra cotta tile.

Another compound of iron and oxygen produces some very dark rocks or mineral coatings on rocks. In many parts of the desert, entire mountain sides are colored a deep and melancholy blackish-brown from "desert varnish," a crust of iron oxide and iron's little cousin manganese. This blackish glaze not only gives the slopes a gloomy look by itself, but under the browbeating fierceness of the noon-day sun, hillsides sometimes assume a look of misplaced gayety, like a shiny tar roof on a Sunday afternoon.

Combined with both hydrogen and oxygen, iron forms another, yellowish mineral, limonite. You can see its color any time on a rusty tin can. Sometimes, livened up with a little white, it has an attractive shade of reddish-brown like the coat of a sorrel horse or the wing of a monarch butterfly. When silicon and certain other elements enter in to complicate things, a whole series of colored minerals results. These are pale yellow, through green to dark greenish-black. Many of these are not common in the soil simply because they decompose rapidly under the

action of the weather when finely powdered.

Except for the reds and the browns, it is only when soil formations are seen as large masses that the predominant colors show to best advantage. This effect is striking in the hills around the town of Calico, near Barstow, in the Mojave desert of California. Here is a wonderful display of brilliantly colored slopes—red rose, lavender, yellow, khaki and even green. Close up, the colors, except for the reds, browns and yellows are weak. A handful of green soil and pebbles turns out to be not very green, just greenish with a few spots of green. Most of the rocks here are volcanic ash (tuffs) and consolidated sediments. The pigment in the soil is iron. In the green soil iron is present in the ferrous condition and probably results from iron in the green mineral chlorite in some of the sediments. Another reason why the hills at Calico appear so brilliantly colored is the effect of contrast.

Contrast is the opposition of one color by another: red is the opposite of green, and a red object looks redder against a green background. If you look at the color chart for the desert you will see that colors complement one another by opposition: red and green, blue and orange, violet and yellow—either of these colors looks stronger in the presence of the other. These colors are objective, that is, they are the result of reflected wave-lengths and could be measured by an instrument.

### Subjective Desert Color

But there exists a second series of colors which are actually not there at all: subjective colors created by the brain in response to the effect of real color on the retina under certain conditions. Red objects against green look redder due to the effect of subjective red. You can see these subjective colors under proper conditions. When red particles, say red geranium petals, are scattered rather evenly over a grey background, the spaces between the petals will look definitely green. With orange-colored poppy petals the spaces will appear blue.

In ancient times, decorators made much use of these subjective colors. When archaeologists uncovered the throne-room in the palace of King Minos at Knossos, in Crete, part of the decoration was a fresco showing green trees against a red sunset. When they examined the green pigment there was none; it was grey. Some of our desert Indians, the Zuñi, Navajo and Apache make use of subjective color in their ceremonial pictures designed with colored sand. They have no blue sand. But they make a cool, neutral grey by mixing charcoal from

*Floating dust particles cause the veil of haze which sometimes adds a touch of glamour to an ordinary landscape.*





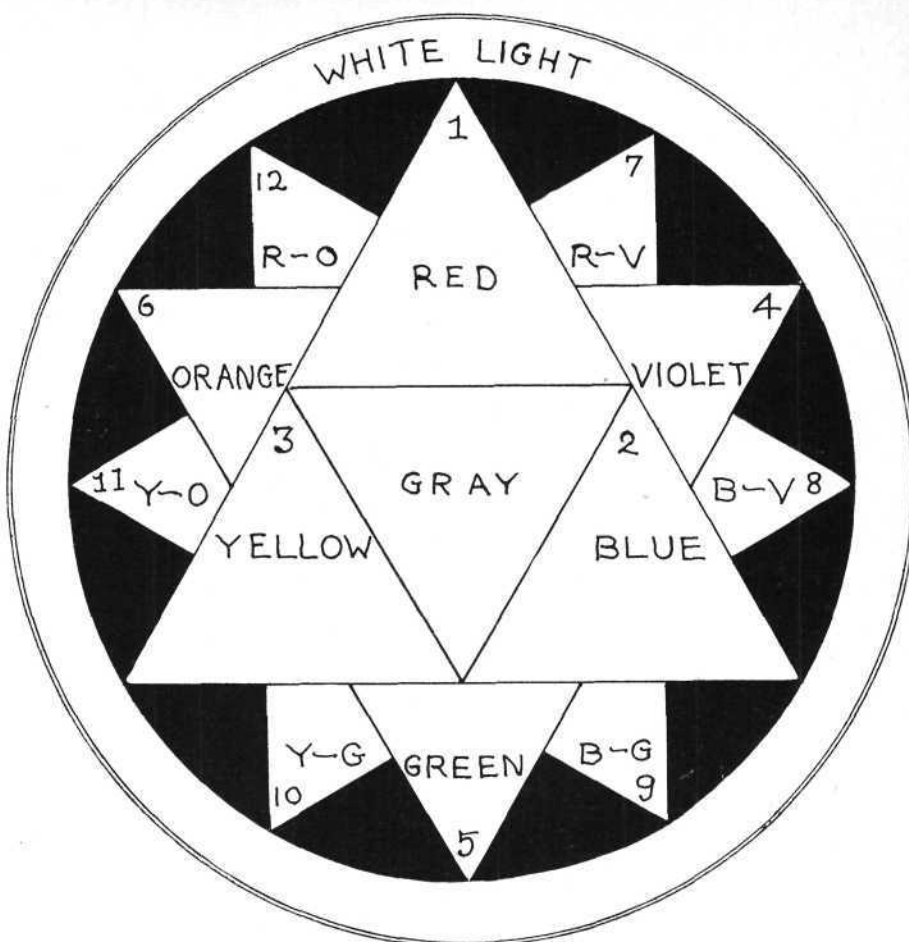
burnt corn-cobs with white sand, which, properly used against the yellow-orange of naturally colored sand gives the effect of blue. Sometimes in the desert, the plant called filaree (*Alfilarea*) grows in scattered rosettes rather thickly. When filaree grows on grey soil this looks lavender, due to a small amount of subjective red mixed with the grey.

Contrast and subjective color go a long way toward producing much of the astonishing color we see in the desert. In the morning, against a primrose-yellow sky, a distant mountain range has an indescribable lavender color, but in the evening, against an orange sunset, mountains appear indigo blue. Green vegetation like cottonwoods, juniper and palo verde are strongly green and bring out any trace of red in the soil where they grow. A red cliff looks redder seen through a clump of cottonwoods, and the sky looks bluer over a yellow hill. Vegetation always has much effect upon the landscape and what little there may be makes a great difference. Most desert plants, except for the cacti and a few others, tend toward a whitish, greyish or olive-brown color. The beautiful but treacherous cholla cactus is whitish straw-color, desert holly silvery-white, creosote bush bronze or yellowish-olive. Contrary to the general ideas that people are likely to hold about the desert, there is vegetation in most places at the right time of the year. Around Wickenburg, Arizona, in July and August, after the rains, the desert is sometimes splendid with the color of gold—millions of California poppies and the little wild desert hollyhock with brick-red petals. They seem to come up almost overnight and change the whole landscape. This sudden blooming of the desert has to be regarded as one of those dramatic shiftings of scene, like cloudbursts and sandstorms. These are aspects of the desert that should be considered apart from this paper which I am confining to one subject—the *basic* color of the desert.

### Atmospheric Influence

One of the most important sources of this basic color is distance, or "atmosphere." We went into the subject of atmospheric blue and its cause at the beginning of this article. Here is the place to look at its effect on the landscape.

The atmosphere, an ocean of mixed gases five miles deep, is definitely blue. Looked through horizontally, as at some distant peak, atmospheric blue furnishes the blue of distance. But as John C. Van Dyke points out in his work "The Desert," floating particles change this color greatly and cause the wonderful veil of



**COLOR CHART FOR THE DESERT**—As an artist sees it, red, blue and yellow are the primary colors. In the desert red is mostly due to iron when the color is seen in the soil and rocks. Blue is practically all due to atmosphere. Yellow, the result of iron but sometimes greatly modified by vegetation. Colors seen at sunset are the result of floating dust in the lower layers of the atmosphere.

Combinations of any two primary colors produce secondary colors: violet, green and orange. Any mixture of opposite colors produces grey—red plus green, blue plus orange, etc.

Colors are also modified by the effect of white and grey. Brown is orange lowered by mixture with grey, and tan is brown livened up with white.

haze—sometimes lavender, greyish-mauve or even yellowish or brownish, which frequently adds a touch of mystery, like the glamour of a Chinese painting to what were otherwise rather ordinary landscapes. A mountain ridge may show sharply in silhouette against the sky. Lower down, it begins to fade, and at last its foothills blend with the color of the haze and disappear, continuous with the color of the sky at the horizon.

### Desert Shadows

Here is the place to bring up another fact which is obvious but generally overlooked. Shadows out of doors under a blue sky are blue. You can prove it for yourself. Some morning, when the sunlight strikes a distant mountain slope slantwise and shadows show as dark scars against the general background, look at

the scene through a pair of binoculars adjusted so that everything is out of focus and blurred.

You will see simply a futuristic conglomeration of color. But the shadows now show up in their true color, splashes of ultramarine about the color of a new pair of overalls. Shadows close by also are blue. Look at a shadow cast by strong sunlight on a white or pale grey background through your out-of-focus binoculars—it is indigo blue. Shadows are also luminous due to diffuse light. They are also modified by the color of the ground on which they fall.

The effect of atmospheric blue and shadow is to cool off the landscape and distant objects, although at high noon on a clear day even distant mountains sometimes look hard with just the weakest

suggestion of blue "distance." This blue adds an elusive quality to any landscape. Lack of it explains why some of the frescoes frequently seen in desert restaurants "don't look natural"—lack of blue shadows and the effect of light.

We are likely to remember the light of the desert as being amber or even golden-yellow. There is usually a sound reason for such color-memory. Frequently, in the desert, local color is yellowish, tan or orange. Sunlight reflected from adobe is yellowish. The first time I saw the desert was from the east side of an adobe ranch-house. Ever since I have remembered the light of the desert as yellow. But go to a sand dune some day in July and you will find the light to be an eye-blistering white.

The best way to learn to see the color of the desert is to try to paint the landscape in water color. Many great artists went to the desert for their postgraduate courses. Maxfield Parrish learned many of the secrets of blue in the Arizona desert. Holman Hunt painted the desert of Palestine. Although he was one of those Victorian artists who sometimes painted too well to be interesting, he used his knowledge of desert color to perfection in "The Scapegoat." Jules Guerin specialized in the Egyptian desert, particularly the desert by moonlight.

You don't need a teacher to show you the color of the desert. All you require are sketching materials, enthusiasm and nerve enough to keep trying. Begin by what I call the "expanding system." Make your first sketches small. I found 4½x7 inches to be a good size. Don't worry about detail or try to paint like someone else. Just paint what you see. Your first adventures with water color probably will be terrible, timid and actually only half finished. But save your attempts and keep them in your sketch book, each framed by a mat of grey paper stuck on at the top of the page. This dresses up your picture by stopping out the white margin. It also covers up the places where your washes slopped over. Any sketch looks better if you treat it with respect.

As soon as you feel that you can handle these little compositions competently, expand another half inch: 5x7½. Anybody can take in this amount of extra territory. By the time you have filled several sketch books and are working, say, 8x10, you will have a set of memories permanently recorded in color, and an appreciation for the charm of landscape that will be your passport into a realm of beauty that never grows old—the color of the desert.

## DESERT QUIZ

This month's test is devised to check up on your knowledge of the desert's physical aspects, the plant and animal life characteristic of it, men who have contributed in various ways to its history or development and upon your observation. If you score more than ten right, you are above the average and automatically admitted to the desert rat fraternity. A score of more than 15 elevates you to the heights occupied only by the Sand Dune Sages. Answers are on page 29.

- 1—If you took a trip to Tropic, Utah, your main interest in the area probably would be— Fossils..... Indian ruins..... Tropical gardens..... Quartz crystals.....
- 2—The Malpais country of New Mexico is characterized by— Badlands formation..... Treacherous sands..... Lava flow..... Swamps.....
- 3—Dr. Herbert Stahnke is nationally known for his research work with— Scorpions..... Rattlesnakes..... Hohokam pottery..... Fossil strata in Grand Canyon.....
- 4—Point from which one can see the highest peak in California is— Palm Springs..... Death Valley..... Las Vegas, Nevada..... Salton Sea.....
- 5—Residents of which town are known as "People of Washoe"— Reno..... Virginia City..... Las Vegas..... Pioche.....
- 6—Piki is— Type of Navajo dwelling..... Cane-like weapon..... Indian bread..... Kind of Indian money.....
- 7—If you crossed the Colorado river at Moab, Utah, what noted scenic area would be convenient to visit— Rainbow Bridge..... Zion national park..... Arches national monument..... Meteor crater.....
- 8—Elephant Butte dam is on— Rio Grande river..... Canadian river..... Gila river..... Little Colorado river.....
- 9—Geodes are most often found in— Quartz ledges..... Conglomerate deposits..... Volcanic areas..... Limestone cliffs.....
- 10—Charles Francis Saunders was— An archaeologist..... Botanist..... Mining engineer..... Historian.....
- 11—"Slip" is a material used by the Indians in— Making pottery..... Weaving blankets..... Preparing food..... Making ceremonial costumes.....
- 12—Crossing the Lechugilla desert, on the way to Tinajas Altas in southern Arizona, the dominant plants in the landscape are— Poppies..... Cholla cactus..... Saguaro..... Mesquite.....
- 13—The Western Gecko is a kind of— Lizard..... Snake..... Bird..... Flowering shrub.....
- 14—Chrysoberyl's hardness, according to the Mohs scale, is— 6.5..... 7..... 8.5..... 9.....
- 15—Famed pottery of San Ildefonso is— Apricot..... Red..... Black..... Brown and cream.....
- 16—Butterfly Knot refers to— Knot used by mountain climbers..... Typical Hopi maiden's hairdress..... Noted rock formation.....
- 17—Bill Williams, for whom Arizona mountain and river were named, was— A prospector..... Arizona territorial governor..... Scout and hunter..... Legendary historic character.....
- 18—The two winged bronze monuments sculptured by Oskar Hansen at Boulder dam, symbolize— Government and governed..... Power and light..... Progress and unity..... Water and earth.....
- 19—If you go to see the Inter-Tribal Indian Ceremonials next August you would go to— Albuquerque..... Tucson..... Santa Fe..... Gallup.....
- 20—Most venomous of desert lizards is— Chuckawalla..... Gila monster..... Iguana..... Zebra-tailed lizard.....



# Mines and Mining . .

## Las Vegas, Nevada . . .

At request of C. B. Henderson, RFC head and member of defense plants board, Senator James G. Scrugham is investigating feasibility of making government's huge BMI magnesium plant near here a permanent post-war industry. Scrugham said he envisioned a peace time plant to manufacture sheet magnesium and magnesium plastics to develop the larger plane of the future. The senator also is interested in developing by-products of the industry.

. . .

## Washington, D. C. . . .

War production board again has issued appeal to citizens who own property on which quartz crystals are located or who know where they may be found. Crystals are needed for manufacture of quartz oscillator plates used in radio equipment. At present almost all supply for armed forces comes from Brazil. Only separate individual crystals at least an inch thick and three inches long can be used. Each crystal must be clear and colorless on the inside. Anyone having information on such crystals should contact the miscellaneous minerals division, war production board, temporary Building R, Washington, D. C.

. . .

## Phoenix, Arizona . . .

Production at Aluminum Company of America's local extrusion plant began late in May, according to Walter S. Rearick, general operations superintendent. Nature or volume of output is not announced beyond fact that it consists of aluminum shapes for war industry, principally aircraft. Construction still is under way at the \$30,000,000 plant.

. . .

## Marysvale, Utah . . .

Construction of Moffat aluminum plant here was scheduled to begin in mid-June, according to Senator Abe Murdock who has just completed an inspection tour. Ralph Moffat, vice-president of the company, is originator of the Moffat process for producing alumina from alunite. Murdock believes that production cost of this process will at least be competitive and possibly lower than production of alumina from low grade bauxite. Additional advantages were seen in the marketable by-products of potash and sulphuric acid and in the location, 1,200 miles nearer the aluminum plants of the west coast than are the bauxite deposits of Arkansas and Tennessee.

## Santa Fe, New Mexico . . .

Two successful wildcat oil wells were reported by State Land commission to have been brought in at new areas of Lea and Eddy county fields. Eddy county well hit lime pay at 2,560 feet, which continued through 2,592 feet and yielded between 50 and 60 barrels a day. Second well struck sand pay at 4,645 feet, hole filling with oil for 700 feet. Operators were drilling ahead toward the Maljamar lime pay zone.

. . .

## Pioche, Nevada . . .

Casleton mill of Combined Metals Reduction company, completed near here in 1941, has been equipped to treat eventually 1,000 tons zinc-lead sulphide ore by selective-flotation process, whereby two types of concentrates are produced, one of zinc with little silver and the other of lead and silver.

. . .

## Tucson, Arizona . . .

Installation of an optical beam and polarizer for preliminary testing of quartz crystals for radio oscillators was announced by Arizona bureau of mines, University of Arizona. Dr. T. G. Chapman, director of bureau, said testing service is available to miners throughout the state.

. . .

## Tonopah, Nevada . . .

Charles Joseph, Tonopah and Divide miner and leaser, is looking for a "lost gold mine" which he believes he once found without knowing it. Some years ago he knocked some quartz fragments from an outcropping he found near Royston, Nye county. It was snowing at the time, so he merely put the quartz pieces in the car pocket and forgot them. Over a year later, as he was repairing the car door, he noticed the specimens and was amazed to find them liberally sprinkled with gold. He's still looking for the ledge.

. . .

## Reno, Nevada . . .

As result of intensive research, U. S. bureau of mines has announced it had developed a process whereby a 400,000,000-ton dolomite deposit near Las Vegas could be utilized to produce "many millions of tons" of magnesia, which is a raw material of magnesium, the important lightweight metal used in airplane construction. Studies have been conducted at the bureau's laboratories and pilot plants at Boulder City. Dolomite form of limestone is said to be found in enormous volume at many points in Nevada.

## Washington, D. C. . . .

Secretary of Commerce Jesse Jones has announced Metals Reserve company will pay increased prices for domestic manganese ores to stimulate production. New price scale brings increases of 15 to 25 cents per unit.

. . .

## Superior, Arizona . . .

Air conditioning makes possible work in Magma Copper company mine, nation's deepest mine, said Burch Foraker, ventilation and safety engineer for the company in describing the mine's operation. Deepest level in the mine is 4,910 feet, where rock temperature is more than 155 degrees. With air conditioning the mine owners believe it will be possible to work to a depth of a mile or more.

. . .

## Washington, D. C. . . .

Additional premium to small copper mines is now available, advises Jesse Jones, secretary of commerce. New plan is limited to mines which produced less than 2,000 tons of copper during 1942 and which need increased revenue to obtain maximum production. Inquiries concerning eligibility should be directed to Landon F. Stroebel, executive secretary, quota committee, premium price plan for copper, lead and zinc, war production board, room 2047, temporary R building, Washington, D. C.

. . .

## Blythe, California . . .

Riverside county has one of the world's richest tin deposits, states Bill Hemleben in April issue of California Mining Journal. He charges that British and Dutch tin cartel has dominated world market, and adds that "the time is drawing near when a congressional investigation will be demanded by the American people to learn why this holding back game." He declares private reports by experts in the field substantiate existence of rich tin deposits despite U. S. bureau of mines and state division of mines claims to the contrary.

. . .

## Washington, D. C. . . .

Senate judiciary committee has recommended a bill providing that gold and silver mines whose operations have been shut down because of war may obtain court relief from contract obligations until after the war. Bill, by Senator Pat McCarran (D., Nev.), provides that operators may institute proceedings in federal district or state courts for suspension of obligations. Bill would also apply to miners unable to get materials to continue production.

It was in the Arizona desert that eastern-bred Amantha Winters found a new life—a life imbued with courage that is born of the desert. How she found that courage springing unconsciously from a spirit of service . . . is here told in the colloquial speech of the Southwest. This story of a regenerative courage is the second in a trilogy by Phil Stephens portraying qualities characteristic of those truly "of the desert."

# Courage is Born --of the Desert

By PHIL K. STEPHENS  
Illustrated by John Hansen

THE wan faced woman looked out the window as the train slowed to a stop. She cringed as the fact of the desert smote her consciousness and turned frightened, misted eyes to the sleeping face of the little girl beside her. "Oh, darling," she whispered, "what have I done? We're alone and I'm dying. This awful place!"

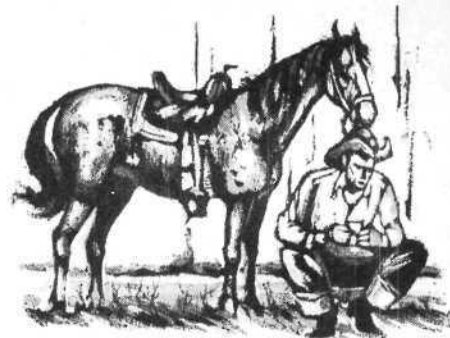
A woman with dark Castilian face stopped beside the seat. "*Dispense me—* excuse me, I mean," she said. The *hombre* een the *estación*—oh, that man een el *depo*—the depot—could not make heem-

self come for to meet you, he has *muchas trabajo*, work, as you say, so I am here. *Yo soy*—ahh—I am Mamma Costillo. I have the *casa*, the house arrange for you. Eet ees be-yoo-tiful! And the so be-yoo-tiful *niña*—the child—she look not so *mal*—seek, I mean."

"No, she is not ill, it is I and I do not know what to do. This terrible place!"

The dark eyes searched the pale face keenly. "I have the sor-r-ee," the soft voice had a restful quality. "I have care for the eel—the seek—and you do not to me look like your body ees seek—the mind, maybe, eet has *triste*, the sadness, I mean. Ees eet not so? But, oh! I make the talk too much. *Va con migo*—come weeth me." She shook the sleeping girl gently. "*Niña*, wake the blessed eyes—ah-h, your child—she ees of the great beauty. She have the 12 years, I theenk?"

"Yes, she is 12. But you will have to aid me. I am very weak. I have been ill a long time. The doctors do not seem able to help me. They tell me my lungs are not affected but they think I should be in the desert. This awful place! Sandra," to the girl, "this is Mamma Costillo. She has come to help us get settled."



"Mamma Costillo," the girl repeated. "What a nice name. Oh, I like you, you look so—so—so homey!"

"Oh, so nice a theeng to say! *Sus nombre*—your name, eet ees Sandra. You have the gold hair and the eyes of *azul*—blue, I mean, like the pictures of the angels. The desert—eet has a gr-r-eat kindness for you and will teach to you many theengs. Eet ees deeferent but eet ees more like the good Señor God intends for hees cheeldren. Een the desert we live for others and that makes for gr-r-eat happiness for our own selves. But come, the tr-rain, eet ees soon to go. But," to the older woman, "I have not the honor to know your name."

"I am Amantha Winters. My husband, Sandra's father, died 10 years ago and I have lost all touch with life. There is nothing to go on for." The voice was bitter.

They went to the steps and the porter assisted them. Hardly had they touched the ground when they were aware of a commotion in the little green park the railroad maintained near the depot. An old man with long white whiskers, a man in his middle thirties, of powerful build, and a boy of perhaps 15 were doing a grotesque dance with clasped hands and with heads thrown back. "E-e-e-yow! E-e-e-yow!" they chanted, "we are the Wild Coyotes of the Desert! We can look a rattlesnake in the face and spit in his eye! E-e-e-yow! E-e-e-yow!"

"Are they crazy?" Amantha gasped. Sandra looked on gleefully.





"Cra-zee? Loco?" Mamma Costillo gazed at the trio with love in her expressive eyes. "Ah no, they have the gr-r-eat humor like the leetle boys. They are my *amigos*—my friends. Weeth them as friends Mamma Costillo ees as safe in these pueblo as though she was in the pocket of the Señor God. The so foolish men make themselves an order—*un sociedad*—The Wild Coyotes of the Desert. Only the thr-r-ee of them belong."

The three dancers spied Mamma Costillo and her charges and came hurrying across the yards. The old man spoke, "Mamma Costillo, you found 'em, I see."

He was not a large man but his voice was a shout. Mamma Costillo smiled at Amantha's bewilderment. "He's like that," she said. "When he wheesper you can hear heem one mile. Make hees hand one good shake, Señora."

Timidly Amantha held out her hand. The old man took it in a firm clasp and searched her face with piercing eyes. She had never seen such eyes, she could look at them but not into them. "Hard," she thought, "oh, how hard, but somehow friendly and understanding."

"Lady," the old man boomed, "I sure admire to meet up with you. This here is Jim Powers, a danged good man spoiled by bein' a engineer, an' this is Dan who'll be a good man if Jim don't ruin him by his book larnin'."

Jim buried her hand in his great paw.

She never had seen so big a man amongst her acquaintances. Not handsome, she thought, but strong with cool grey eyes, direct and kind. A good man but not one to be trifled with. He was an engineer in charge of government construction near by. The boy Dan was a slim wiry youth, freckled, with dancing eyes and a ready smile. Dan had been abandoned at this place by people going through, and Jim and the old man had given him a home. Now he was a very definite part of the bachelor family by right of character and lovable personality.

Mamma Costillo spoke. "Now, go with us to the *casita*—the leetle house, and I weel make you the strong cup of tea," she said. "The rest ees what you need. Theese so-worthless men would not theenk of that. *Mañana*—the tomorrow—you can make her the veesit for one leetle hour. Adios, now, but breeng for us the bags to the door."

The next day gran'pa met Mamma Costillo and inquired about Amantha. The fine dark eyes clouded. "I theenk you may not come today. Señora Amantha ees *muy débil*—she ees not str-r-ong, she ees in the chair weeth the eyes close—an' theese country do not make the eenterest for her. She ees not seek, she ees of the past. I weel make her sit under the ramada. There she can feel the air and wake the mind—*quizá*."

Many days later Amantha sat in the

shade of the ramada swathed in colorful Indian blankets. Almost against her will she began to notice the flow of life about her. A horned toad came close and she screamed. Mamma Costillo came running. "Oh," she laughed, "there ees no harm een its so leetle body. Eet ees the friendly *ciudadano*—the citizen of the desert. Eet ees most een-tresting to watch."

Amantha began to watch the little reptile. For moments it would be feverishly busy in the mysterious business of its kind and between whiles would remain motionless. She could see the pulsing of its breathing and its bright eyes seemed alert. Gran'pa came and sat on a small bench. "Funny leetle cuss, ain't it?" he roared. She looked up, startled.

A horse with a beautiful single foot gait passed and its rider guided it to the 'dobe wall and with almost feline grace slid from the saddle. He was big, not as large as Jim, but as he whipped the dust from his clothes with his sombrero Amantha saw the easy play of muscles under the dusty shirt. Probably about 22, she thought. He flashed a glance at her and gran'pa and taking a canteen from the saddle drank thirstily. He sat on his heels with his back against the 'dobe and rolled a cigarette. A match appeared which flipped into light against his thumbnail. He tipped his hat over his eyes and appeared to doze but somehow Amantha sensed there was nothing which escaped

"E-e-e-yow! E-e-e-yow!" they chanted. "We are the Wild Coyotes of the Desert! We can look a rattlesnake in the face and spit in his eye! E-e-e-yow! E-e-e-yow!"



his attention. Apparently gran'pa had not noticed him.

Two men came down the dusty road from the direction of the railroad. Doubtless they had been stealing a ride and had been ordered off. As they came opposite, one of them, a huge hulking man, vicious in appearance, made a coarse searing remark to his companion as he saw Amantha. The two laughed immoderately. Amantha shuddered helplessly.

In one movement the cowboy had the big man by the collar. "For that I'll half kill you," he grated. The tramp jerked free and struck out. Confused, Amantha could not see the details but she watched in horrified amazement the first encounter she ever had seen between men. The tramp was a tough fighter but he weakened under the cowboy's powerful if unscientific attack. He shouted for his companion to help. The second man closed in and a long knife was in his hand. She cried out warningly.

She heard a roar from beside her. The old man shed the years and came to his feet like a boy. From somewhere under his coat with blinding speed he brought out an old frontier model Colt, polished from long use, and with the smoothness of long familiarity trained the gun on the man with the knife. "Drop that knife," he yelled, "or birds kin fly through you without techin'!" The man sensed death before him and the knife clattered to the gravel. With a smashing blow the cowboy dropped the big man to the ground. The tramps hurried away. The old man hid the gun under his coat and regained his seat.

The cowboy came over to where the old man was sitting. "Gramps," he said, "I like your style heaps. That gun play wasn't no wise unfamiliar to you. I'd be proud to be a friend of yours. I'm clean foot loose an' if there's anything I can do in this place I'd like to stay, that is, of course, if you like my brand."

Gran'pa stretched out his hand and a slow smile lit up his face. "Son," he said, as the younger man grasped his hand, "your recommends are sure first class. Throw your leather in that shed down there by my house an' go in an' clean up. If you're hongry there's grub in the kitchen. We'll fix you up a bed where the boy sleeps. Jim'll be along soon an' git you fixed up with a job where he's workin'. I'm sure glad you've come by."

The cowboy led his horse to the corral and stripped it of saddle and bridle. Amantha spoke. "Surely you are not taking him—" "Hesh your mouth!" the old

man said. Never had she been spoken to in this brusque manner. Angry red flared into her cheeks. The old man was not looking at her but was intent on the cowboy. The latter was stroking the horse's face and presently he got a gunny sack and began rubbing the sweaty dusty sides. Gran'pa relaxed and said, "All wool an' a yard wide! You kin tie to that boy, ma'am."

To her surprise Amantha had no unpleasant nervous reaction from the episode as she had expected. She related the happenings to Mamma Costillo. The dark face beamed. "Ah, the blessed saint!" she exulted. "He has keel the many mans but always for the *ley*—the law. He ees the good man to be the *amigo*—the friend." Amantha shuddered as she recalled the implacable ferocity in the old man's face. But curiously she felt an inner urge of affection and decided that on the whole she rather liked the experience.

The next morning she surprised Mamma Costillo by coming to the kitchen and helping with the work. "Mamma Costillo," she said, "once I could cook quite nicely. Do you suppose I could make a pie?" She was surprised how easily she worked and that evening Sandra, who early had taken the Wild Coyotes to her heart, was sent over with two pies. The old man's eyes glistened. "Sandy," he said, "I've been plumb weak all my life about pies. What air these pies called?"

"These are lemon chiffon," said Sandra. "They are my favorite pies."

"I don't wonder none a-tall. You tell your ma them's the best dog-goned pies I ever flopped a lip over. I'm goin' to have me another hunk."

Some release had come to Amantha and as the days passed new energy flowed throughout her body. She took long walks; she recalled some of her botany and studied the desert flora with interest. The desert transfigured her and when she looked into the mirror she could not help admitting that a most pretty, vibrant and vital face looked back at her. Happily she realized that this amazing change had been partly the alchemy of the desert and partly the result of friendly interest in four of the strongest individualists she ever had known. The Coyotes had now grown to five. The cowboy curly soon had been admitted to the band and a little later Amantha had looked out and seen Sandra dancing in the queer ritual of the clan. She was very happy.

Dan and Sandra and little Miguel, Mamma Costillo's boy, had been busy for some time digging a tunnel in the hill

back of the depot and had excavated the soft caliche to a depth of several feet. Occasionally they had uncovered a large rock and this had called for help from Jim or Curly to roll the stone to the edge of the dump. At times they had found a fine gravel which was worked easily as it flowed out until the pocket was exhausted. The children were wildly excited about their "mine."

One day Sandra came racing to the house. "Mamma!" she gasped, "a rock is on Miguel and the sand and gravel is covering his face! Run! oh run up there and keep the dirt from choking Miguel and I'll get Jim and Curly. Hurry, mamma, hurry!" She was gone with frantic haste.

Amantha ran up the steep trail to the tunnel. She wondered how she could do it. Inside she saw Miguel prone on the floor, a huge boulder pinning him to the ground, not crushing him but holding him tightly in the sand. The danger was from the gravel and sand flowing in a steady stream over his face. Amantha knelt beside him and with her hands she scraped away the dirt. There was no respite, the steady stream had no ending. There was nothing to do but keep scraping away.

In the close air of the tunnel Amantha soon was bathed in perspiration. Her hair loosened and covered her face. Her fingernails broke and soon the ends of her fingers were raw. She could not cease for a moment to find any kind of implement. Every minute was agony but with desperate determination she forced herself to the task. The blood was flowing from her fingers. The time was interminable. Her only thought was whether she could keep herself working. The boy was quiet. She could not tell whether he was hurt.

She had no consciousness of the time she had been so desperately throwing aside the dirt when she heard hurried footsteps outside the tunnel. A second later Jim was near her. His great bulk almost filled the tunnel. "Follow me out," he said, "I'll come back and get the boy."

Clinging to Jim she dragged herself to the fresh air and felt herself go faint and shaken. "I'll not give away now," she thought. "I'm not going to be that weak." The vertigo passed.

Jim and Curly went in. Jim was too big to put his strength against the rock effectively. Curly took his place and braced himself and as he pushed the rock back Jim reached between his legs and drew the boy to safety.

Miguel was not hurt and strongly ob-



jected to being carried down the trail. Jim looked at Amantha's hands and his face went white. He put his arm around her and started walking but realized how weak she was and lifted her into his arms and thus they arrived at the house. Mama Costillo, who had been visiting some neighbor, met them and as she learned the story of the afternoon she was bathing and bandaging the little mutilated hands. "Oh, the blessed Señora!" she exclaimed, "so *valiente*—so brave! For my Miguel! She is of the desert now!"

In bed Amantha was surprised to discover that aside from the cruel ache in her fingers she could find no bad effects from her ordeal. Drowsily she recalled the delicious feeling when Jim had carried her down the trail in his arms. Curly had tried awkwardly to help and even now she knew that gran'pa had constituted himself a guard over her house to see that no one or no thing should disturb her. How safe she was, she thought. How happy she was that she had proved herself of kindred spirit with these men.

Sleep almost was overcoming her when the habit of bedtime prayer asserted itself. Dreamily she carried these new friends to the attention of Deity—then suddenly sat up in bed. "Why, why," she gasped in

amazement, "I never prayed for anyone else before!" Marveling at this she fell asleep.

A few days later Amantha's hands had healed somewhat and she had the Coyotes over for dinner. Evidently these worthies had been in consultation for scarcely had they entered the door when they formed a circle and Jim and the old man drew Amantha into the ring. Then with heads thrown back and dancing the grotesquerie of their ritual they howled, "E-e-yow! E-e-yow! We are the Wild Coyotes of the Desert! We can look a rattlesnake in the face and spit in his eye! E-e-yow! E-e-yow!"

Happily Amantha joined in and then realizing that this was admission to the brotherhood of the desert, she dashed for the kitchen where she could cry alone over the amazing happiness she felt. Her home ties were broken, she knew. She was of the desert and evermore this would be her home.

Soon the kitchen door opened and the Coyotes saw her face again. Eyes glowing with happiness and sparkling with mischief she said, "Boys, I'm going to make a pie."

"Mandy," the old man boomed—she

loved that "Mandy"—"Would it be that you air goin' to make one of them lemon chiffonier pies?"

"Yes, gran'pa," she laughed, "I'm going to make the best dog-goned pie you ever flopped a lip over!"

## ANSWERS TO DESERT QUIZ

*Questions on page 24.*

- 1—Fossils.
- 2—Lava flow.
- 3—Scorpions.
- 4—Death Valley.
- 5—Reno.
- 6—Wafer-like Indian bread.
- 7—Arches national monument.
- 8—Rio Grande.
- 9—Volcanic areas.
- 10—Botanist.
- 11—Pottery making.
- 12—Saguaro.
- 13—Harmless lizard.
- 14—8.5.
- 15—Two-toned black.
- 16—Knot used by mountain climbers.
- 17—Scout and hunter.
- 18—Government and governed.
- 19—Gallup.
- 20—Gila monster. The other three are harmless.

# District Power Had a Birthday . . .

- Seven years ago, on May 19, 1936, Imperial Valley newspapers headlined the story of the first consumers being connected to Imperial Irrigation District power lines.
- The miraculous growth and expansion of this publicly owned public utility since that recent date, is a saga of progress that is a glowing tribute to the people of Imperial Valley who overcame every obstacle in their fight to utilize the power possibilities of the great All-American canal.
- Starting with three small diesel generating units, and a distribution system covering only

a portion of the incorporated city limits of the town of Brawley, the District power system has spread until today it reaches out to serve every city and town in Imperial Valley. In addition, over 2,000 farms and rural homes—previously without electricity—are served over a rural network comprising nearly a thousand miles of lines.

- The three small diesel generating units grew to the largest active plant of its kind in the West—two huge hydro-electric plants were built on the All-American canal. Gross power sales for 1943 will total nearly a million dollars—truly a tremendous record of accomplishment.

## Imperial Irrigation District



**Use Your Own Power—Make it Pay for the All American Canal**

# HERE AND THERE... on the Desert

## ARIZONA

### Basin States Approve Contract . . .

PHOENIX—Delegates of Colorado river basin states, meeting at Denver in May, voted 6 to 1 to submit with favorable recommendations to the secretary of interior a contract which would allocate waters of the stream to Arizona. If contract is approved Arizona Governor Sidney P. Osborn said he would call a special legislative session to ratify the document, making his state a Colorado river compact member. Contract would allocate to Arizona 2,800,000 acre feet of water from Colorado river annually, plus one-half surplus unapportioned by the compact. Governor Osborn said such action would allow area now under cultivation to be doubled.

### Cowboy Boots Ration-Free . . .

TUCSON—Cowboys no longer will be required to surrender ration coupons when they have new lowers made to go with the uppers of their boots. Pima county war price and rationing board was informed by OPA in May. In February OPA had ruled that coupons would be required for such work. Present word rescinds former order.

### Paging All Bull Snakes . . .

PRESCOTT — Smoki People, white business men of this city who portray Indian rituals, ask cooperation of public in collecting bull snakes for their snake dance. The 23rd annual rites this year are scheduled for August 1.

### Trout Season Opens . . .

FLAGSTAFF—Well stocked mountain streams and lakes will provide Arizonans with an excellent trout season, extending from May 30 to September 30. Thousands of creel-sized trout (averaging eight inches) were planted in the streams during spring months, giving anglers a chance to par the limit of 15 trout. Special limits of 10 trout exist in Oak creek, Grand Canyon national park and Granite Basin lake in Yavapai county.

### Cadets Grow Own Tomatoes . . .

CHANDLER — Food shortages will not affect menu-planning at Army Air Forces Advanced Flying training school here, according to Col. Herbert Grillis, Williams field commanding officer. Williams men have small garden plots scattered over the post. Each squadron has been assigned a section for cultivation during off-duty hours.

### Noted Cartoonist Dies . . .

WINSLOW — Harry Locke, former newspaper cartoonist and well known northern Arizona artist, died May 26. He once was supervisor at Meteor Crater. Story of Locke and his art appeared in DM March, 1943.

### Siggy Noo Goes to Zoo . . .

TUCSON—Sigma Nu fraternity men at the University of Arizona had to say goodbye to Siggy Noo, pet lion they had raised from an eight-pound cub to a 90-pounder which worried neighbors, police, and finally the city fathers. Siggy Noo has been given to Apache Junction zoo, traveling there by auto. He had been brought from Africa by a ferry command pilot.

### North Rim Accommodations . . .

GRAND CANYON—Limited accommodations and meal service became available for visitors at the North rim June 1, according to H. C. Bryant, superintendent of Grand Canyon national park. Utah Parks company will provide cabins, meals and supplies to campers. Company buses will not be operated this year, but roads are in good condition.

### Cadets Publish Weekly . . .

LUKE FIELD — Nation's largest single-engine advanced flying school now has its own camp newspaper. "Lukomunique," newsy 8-page tabloid, made its bow May 8. Paper was established at request of Col. John K. Nissley, Luke commanding officer. Capt. James A. Carvin, Luke field public relations officer, is in charge of the weekly.

### International Cooperation . . .

NOGALES—Civic bodies of two nations will unite to mutually tackle local war problems for the duration, according to plans of Nogales, Arizona, and Nogales, Sonora, Mexico, chambers of commerce. Each chamber has named a five-man committee which will meet alternately in Mexico and U. S.

### Jackrabbits Over-Run Papagos . . .

TUCSON—Indians on the Papago reservation, with their ammunition exhausted and thousands of hungry jackrabbits attacking their meager drouth-ridden crops, face prospect of reverting to bows and arrows of their forefathers. Although they killed approximately 25,000 jackrabbits last year with ammunition freely sold to them, it suddenly has been discovered state and federal laws prohibit sale of ammunition to Indians. Matter is in U. S. attorney's office here.

### Air Cooler Rule May Relax . . .

PHOENIX—Governor Osborn's request for relaxation of recently announced restrictions on evaporative coolers to civilian population received a favorable reply from Sterling F. Smith, chief of refrigeration and air-conditioning section of WPB. Smith wrote that steps were being taken to set up a program to make evaporative coolers available to residents of California, Nevada and Arizona, within certain limits.

### Gila Project Work Urged . . .

YUMA—Secretary of Interior Harold L. Ickes reported in May that construction of irrigation facilities on Gila project east of here, will be rushed to provide dust control for Yuma Air Base and increased food supplies. Construction on Gila project, designed to irrigate ultimately more than 100,000 acres of desert, had been stopped last October, although order was modified on two occasions.

Annual Frontier Days will be celebrated in Prescott July 4, featuring parade and rodeo events.

Sixteenth annual All-Indian Pow-Wow will be held in Flagstaff July 3 and 4. Afternoon events only.

Dr. Taylor Hicks, Prescott, was installed May 8 as president Arizona State Dental society.

Ruth Baird, 16-year-old girl of Miami, has been awarded Expert Rifleman Medal by Junior Division of National Rifle association, Washington, D. C.

Willard A. Bondurant, co-founder of Buckeye, died in Phoenix May 10. He was early-day store-keeper, 20-mule team freighter, mining man.

## CALIFORNIA

### Power Purchase Vote Due . . .

EL CENTRO—With endorsement of state securities commission on bond refinancing plan, Imperial Irrigation district set June 15 for taxpayers' approval of purchase by district of California Electric Power company's system in Imperial and Coachella Valleys. Area affected covers 8,300 square miles, equivalent of combined states of Rhode Island, Connecticut and Delaware. Purchase price has been set at \$4,900,000, involving \$6,000,000 revenue bond.

### More Power Generated . . .

PARKER DAM—Southern California industries began to receive full power capacity of Parker dam May 31, as fourth generator went into operation, 10 years ahead of schedule. Dam diverts Colorado river water into metropolitan water district aqueduct 45 miles below Needles.



### Grape Pickers Also Samplers . . .

INDIO—A 40,000-lug crop of Thompson seedless grapes, considerably larger than last year, is expected to be harvested from the Dr. Harry W. Forbes vineyard near Thermal. Pickers, who were to start in mid-June, sample one grape from each bunch to insure proper ripeness of 18-20 percent sugar content. Workers usually stop at noon, when weather is too hot and pickers too full of grapes to continue.

### Feud Ended by Desert Rat . . .

TWENTYNINE PALMS — William Keyes, colorful desert prospector and cattle rancher, told Sheriff C. F. Rayburn May 13 he had shot and killed his only neighbor, Worth Bagley, Twentynine Palms postmaster and retired Los Angeles county deputy sheriff, climaxing a five-year feud over property line. In Riverside county jail he awaited hearing set for June 3. Keyes Ranch is well known to visitors in Joshua Tree national monument area. Local legend claims Keyes is one-time partner of Death Valley Scotty.

### Carrot Price Fixed . . .

EL CENTRO — Shipments of fresh carrots from Imperial and Yuma valleys will be cut 50 percent, as food production administration confirmed price of \$23 a ton, roadside, for carrots to be dehydrated. It was expected 800 tons daily would roll from the two areas in the six-weeks harvesting period, started in May.

### Fig Tree John's Brother Dies . . .

INDIO—Believed to have been 130 years old, Bill Razon, brother of Fig Tree John, died on Alamo reservation in May. Born many years before United States extended interest or control to the Pacific coast, Razon is said to have lived in Coachella valley all his life. Despite his age he had never been ill and was active until his death, said his grandson, Juan Razon.

### Black Widow Victim Recovers . . .

HOLTVILLE—Paul Redden, who was taken to the hospital in a serious condition as a result of a bite from a black widow spider, recovered after special serum was rushed from El Centro and resuscitator from local fire department was summoned.

### Snow Storm Hits Desert . . .

BISHOP—Inyo-Mono residents shivered through a day of rain, snow and rainbows late in May, as eastern California was struck by "unusual" weather. Six to eight inches of snow fell in June lake area. Snow blanketed highway at Leeving, north. Panamint and U. S. Vanadium mines reported six to 10 inches snow. Six inches of snow fell in four hours at 9,000 foot elevations. Little damage to gardens was reported.

## NEVADA

### BMI City Given Name . . .

LAS VEGAS—New city surrounding plant of Basic Magnesium, Inc., has been named Henderson, for Nevada's former U. S. senator, Charles B. Henderson, now chairman of RFC board. Henderson with population of 8,000 is state's third largest city, following Reno and Las Vegas.

### Deer and Elk Skins Wanted . . .

RENO—Sportsmen of Nevada are asked to cooperate with government in solving shortage of deer and elk skins. War regulations prohibit sale of skins which are acceptable to government, and make it impossible for individuals to have gloves, jackets, rugs, etc., made from such skins, it was pointed out by secretary of state fish and game commission.

### Beaver to Be Moved . . .

BOULDER CITY—Overpopulation of beaver, trapped in Colorado river below Boulder dam, is responsible for plan to live-trap the animals to transplant them where they will have more room. When impossible to transplant them, pelts will be sold by fish and game commissions of Nevada and Arizona. Transplanting will start early in 1944 as it is not feasible to trap beaver in summer, it was announced.

### Bulls and Bears and Bees . . .

MINDEN—It was a case of bulls and bears on Art M. Harmon's ranch near here. Victor Bull was named by state fish and game commission to trap or kill bears which have been coming down from the high Sierra and wrecking Harmon's bee colonies.

### U. of N. Directs Farm Labor . . .

RENO—University of Nevada a land-grant college has responsibility of mobilizing farm labor for state's food crops. Program, under direction of Cecil W. Creel of extension service, includes setting up of farm labor advisory committees; recruitment, training and placement of year-around agricultural workers; determination of farm labor needs; placement of workers; and recruitment and training of women's land army.

### Soldier Rescues Peacock . . .

RENO—A soldier, once a Boy Scout, did his good deed as he walked into the police station with a brilliantly feathered peacock in his arms. "Where can I put this bird?" he asked the amazed desk sergeant. The bird was near exhaustion when he had rescued it from a pack of dogs. Police released it in Idlewild park with the other peacocks there.



### Please do not use the Trains for Pleasure Travel

Military and essential travel must come first. When essential travelers have been taken care of there is actually no room on the trains for people traveling unnecessarily.

Therefore, plain patriotism requires that *you* and all of us give up train travel unless it is positively essential.

The over-crowding of today's trains will stop if each of us takes this responsibility to the war effort to heart.

We know that we can count on *your* wholehearted cooperation.

## S·P

### THE FRIENDLY SOUTHERN PACIFIC

945

Mrs. Luella Pendergast has been appointed justice of peace of Midas township. She is long time resident of Tuscarora district and interested in mining property in Midas district.

State's general fund was swelled by \$300,000 in May when State Treasurer Dan W. Franks received a check from government for state's share of Boulder dam revenue.

Nevada's streams and lakes will be stocked with an additional 1,500,000 rainbow trout this year, according to fish and game commission. 40,000 brook trout will go to Humboldt county.

"Ox-Bow Incident," novel about Nevada written by University of Nevada graduate has won fame as book and now as a motion picture. Its author Walter V. T. Clark is son of president-emeritus of University of Nevada Dr. Walter E. Clark, and Mrs. Clark, of Reno.

## NEW MEXICO

### Dam Compromise Sought . . .

ALBUQUERQUE — In an effort to meet objections, Representative Clinton Anderson (D., N. M.) has proposed restrictions on his bill (HR323) which would authorize exploration looking toward location of dams on Rio Grande watershed and on Indian lands. They included restricting exploration areas to specific townships; prevent building dams within 100 feet of Indian sacred places; limit life of bill to two years. Pueblo Indians urge that dam proposed for flood control be built farther up the river, and "not destroy the lands which have been their homes for 500 years."

### Sun Symbol May Adorn Stamps . . .

SANTA FE—New Mexico's famed emblem, the Zia Indian sun symbol, is expected to be used as the design for new tobacco tax stamps. Probably 50 million stamps will be printed in the initial lot.

### Beware Wild Greens . . .

ALBUQUERQUE—New Mexico residents have been warned by Cecil Pragnell, acting county agent, to "stop at alfalfa" in augmenting their diet with wild greens. Statement followed OWI release advising people to supplement their diets with such wild greens as dandelions, dock and plantain. "That's all right in the East, but in New Mexico there are more poisonous wild plants than edible ones."

### High School Boys Honored . . .

SOCORRO—Model plane built by local high school boys has been chosen by U. S. office of education to represent New Mexico in a permanent display in Washington, according to announcement by State School Superintendent Georgia Lusk.

### Pottery Find in Lava Cave . . .

GRANTS — Lava beds of Valencia county—where you can wear out a pair of shoes in half a day and a sheep works hard for a living—have yielded relics dating from about 1100 A.D., according to Dr. H. P. Mera, archaeologist at laboratory of anthropology. Artifacts include well preserved pottery jars, one metate, two yucca fiber baskets, one containing corn meal. Pottery is of the type known as "sococho black-on-white." Discovery was made when Juan Etchimende, Basque sheepman, found a cavern in the lava beds, with wildcat tracks inside and a pile of rocks at one end, which proved to be a barrier to second chamber which contained the relics.

### State Wants Green Light . . .

TUCUMCARI — Representative Clinton Anderson (D., N.M.) has recommended to house interior appropriations sub-committee the continuation of construction on Tucumcari irrigation project. He said work is 61 percent complete but no water could be brought to land until some of remaining features were built. He cited New Mexico's willingness to "do its part toward combating food shortages. All it needs is the green light on the Tucumcari project to make a substantial contribution."

### Prairie Chicken Comes Back . . .

SANTA FE—Once-vanishing prairie chicken is making a come-back in Lea, Chaves and Roosevelt counties, reports Paul Russell, wildlife coordinator of state game department. Ban on hunting seasons since 1935 has led to increase and may make possible a season "soon." Quail, he said, were seen in the area in greater numbers than at any time since 1932.

Plans are being made to stage annual Inter-Tribal Indian Ceremonial at Gallup August 13, 14 and 15.

## The Desert Trading Post

Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—  
Actually about 1½ cents per thousand readers.

### MISCELLANEOUS

FOR SALE—12 beautiful perfect prehistoric Indian arrowheads, \$1; 10 tiny perfect translucent chalcedony bird arrowheads, \$1; 10 perfect arrowheads from 10 different states, \$1; perfect stone tomahawk, \$1; 4 perfect spearheads, \$1; 5 stone net sinkers, \$1; 10 perfect stemmed fish scalers, \$1; 7 stone line sinkers, \$1; 4 perfect agate bird arrows, \$1; 5 perfect flint drills, \$1; 7 perfect flint awls, \$1; 10 beautiful round head stunning arrowheads, \$1; 4 fine perfect saw edged arrowheads, \$1; 4 fine perfect flying bird arrowheads, \$1; 4 fine perfect drill-pointed arrowheads, \$1; 4 fine perfect queer shaped arrowheads, \$1; 4 rare perfect double notched above a barbed stem base arrowheads, \$1; 5 perfect double notched above a stemmed base arrowheads, \$1; 12 small perfect knife blades of flint, \$1; rare shaped ceremonial flint, \$1; 3 flint chisels, \$1; 7 quartz crystals from graves, \$1; 10 arrowheads of ten different materials including petrified wood, \$1. All of the above 23 offers for \$20. Locations given on all. 100 good grade assorted arrowheads, \$3.00 prepaid. 100 all perfect translucent chalcedony arrowheads in pinkish, red, creamy white, etc., at \$10.00. 100 very fine mixed arrowheads all perfect showy colors and including many rare shapes and types such as drill pointed, double notched, saw edged, queer shapes, etc., location and name of types given, \$25.00 prepaid. List of thousands of other items free. Caddo Trading Post, Glenwood, Arkansas.

HOBBIES, a collector's magazine. A 10 year run from 1933 February to 1943 February, for \$35.00, postfree. N. A. Kovach, 712 So. Hoover St., Los Angeles, California.

\$2.50 brings you prepaid, six rare and beautiful crystallized Arizona minerals. Vanadinite, Diopside, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1½x2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

Quick Sale. Rockhounds Attention. Mudswamp complete with quarter horse G.E. motor. Never used. Will sell cheap. 1444 Appleton St., Long Beach, Calif.

ROCKHOUNDS ATTENTION! We have recently received a shipment of petrified wood from Utah that is without question the most beautiful wood we have ever seen. It is DIFFERENT! We have tried without success to think of a name for this new type of wood. SO WE ARE CALLING FOR HELP. Can YOU think of a good name? If you wish to enter this contest send 15c for sample (large enough for cabochon), examine it and send in your choice of a name. First prize—\$10.00 Rock Bank check. Second prize—\$5.00 Rock Bank check. These checks are redeemable in merchandise in this store—your choice. The names of the winners will be published. Contest open until July 1st. Come on, Rockhounds, help us out. This new wood will be priced at \$1.50 a pound. Chuck and Rocky, 201 Broadway Arcade, 542 So. Broadway, Los Angeles, Calif.

### LIVESTOCK

KARAKULS producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

Karakul Sheep from our Breeding Ranch are especially bred to thrive on the natural feed of the Desert. For information write James Yoakam, Leading Breeder, 1128 No. Hill Ave., Pasadena, California.

### REAL ESTATE

For Imperial Valley Farms —

W. E. HANCOCK

"The Farm Land Man"

Since 1914

EL CENTRO — — — — CALIFORNIA



First Indian chaplain in the army is Lt. James Collins Ottipoby, Comanche, formerly pastor of Christian Indian mission, Albuquerque.

Cimarron, 100-year-old settlement on Santa Fe Trail, will hold its traditional rodeo July 4 and 5. Event is non-professional, "put on by just plain but plumb-good cowboys, and no profit intended."

Anna M. (Dolly) Sloan, wife of John Sloan, artist, died May 4 in New York. For many years member of Santa Fe fiesta board, she and her husband maintained a summer home in Santa Fe.

Joseph Calloway, Raton, has been elected state president Knights of Columbus and Raton chosen for group's 1944 convention.

## UTAH

### Utah Architect Honored . . .

SALT LAKE CITY—Raymond J. Ashton, local architect, was nominated without opposition for presidency of American Institute of Architects at Cincinnati. He has served as president and secretary of Utah chapter and director of western mountain district. His career started in Salt Lake City in 1907, after graduation from University of Utah.

### Utah's Trees Champions . . .

SALT LAKE CITY—Of the four new national champions among American trees announced by American Forestry association, three are in Utah. Largest Engelmann spruce on record is in Cache forest, with circumference of 19 feet 4 inches. A lodgepole pine in Wasatch forest is 40½ inches in diameter, more than 120 inches in circumference. A Rio Grande cottonwood near Moab, and a curl-leaf mountain mahogany in Nevada forest are the two largest of their respective kinds in the country.

## Weather

FROM PHOENIX BUREAU

Temperatures—	Degrees
Mean for May .....	79.0
Normal for May .....	75.0
Highest on May 25 .....	104.0
Lowest on May 17 .....	49.0
Rainfall—	Inches
Total for May .....	Trace
Normal for May .....	.12
Weather—	
Days clear .....	22
Days partly cloudy .....	5
Days cloudy .....	4
Percentage sunshine May .....	93
Percentage normal .....	92

### Still Shears Antique Sheep . . .

VERNAL—Charles Batty's 26-year-old ewe is still producing a good crop of wool. Nineteen pounds of wool were sheared last spring, and 15 pounds this year. He has owned the ewe for the past 17 years having acquired her when she was nine.

### Housing Project to Start . . .

PROVO—At a cost of \$2,000,000 a privately financed and owned FHA-insured rental housing project of 341 units will begin construction here within a month, announces Gordon Weggeland, FHA administrator for Utah. Project, scheduled for completion in November, will cover an area of 20 acres and will have a central playground, community park with recreational buildings and parking space. Each apartment will cost about \$5,000 and will rent for about \$50 per month.

### Utah for Technicolor . . .

MOAB—Ninety percent of the \$2,000,000 technicolor production of "Buffalo Bill" will be filmed in southeastern Utah, because Utah is the greatest state in union for color picture settings, said Harry Sherman, who has been filming the great outdoors for 30 years. "Moab is the most beautiful spot I have ever seen and Utah's Monument valley is in a class by itself. I'm sold on making technicolor pictures in Utah and will start as soon as possible shooting the Buffalo Bill epic."

### Pioneer Celebrates Birthday . . .

KAMAS—Mrs. Sarah Neibaur O'Driscoll, who was born in Salt Lake City May 21, 1849, recently celebrated her 94th birthday at her home here. She witnessed the great grasshopper plague in 1854, sang in concerts in Salt Lake theater when it was the only showhouse west of the Mississippi, and was a member of LDS tabernacle choir in early days of its existence. Still active, her hobby is quoting statistics.

### Women Hikers Found . . .

LOGAN—Two women hikers who lost their trail in Logan canyon were found among the cliffs of Spring hollow during an all-night search. They were Mrs. Hortense Bowen, Logan, and Mrs. Ray Fowler of Woodland, California, who had come here to attend her son's graduation from Utah state agricultural college. They had become lost while attempting to hike over rugged Crimson trail to Girl Scout camp in Spring hollow.

Ogden's Pioneer Days celebration will be held July 21 to 24.

Miss Jeanette Rosser of Salt Lake City was elected president of Utah Business and Professional Women's club at the 21st annual convention in May.

State convention of American Legion will be held at Vernal August 6 and 7.

## GENUINE STEERHIDE HUARACHES

NO RATION COUPON REQUIRED

These rugged woven sandals that have brought cool comfort to so many thousands of American feet in recent years are still available for immediate delivery at no increase in price. Each pair is an original creation, beautifully handcrafted in natural beige leather that ages to a deep tan. Send foot outline, mention shoe size. We guarantee a fit in any size for men, women and children.



Sizes for everyone—men, women, children

Please send.....pairs Huaraches  
Foot outlines enclosed, sizes.....

Name.....  
Address.....

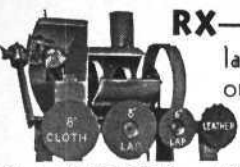
The **OLD MEXICO SHOP**  
D SANTA FE, NEW MEXICO

## A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

You'll want (1) A 4-color picture of this huge painting suitable for framing. (2) A 36-page handsomely illustrated souvenir, pictures and original drawings, of Ghost Town Village and story of this roadside stand which grew to a \$600,000 annual business. (3) Two years subscription (12 numbers) to our illustrated bi-monthly magazine of the West. True tales of the days of gold, achievements of westerners today and courageous thoughts for days to come. Mention this paper and enclose one dollar for all three and get authentic western facts. Postpaid. GHOST TOWN NEWS, BUENA PARK, CALIF.

**RX—the complete lapidary shop in one small machine**




No more sales during duration

W. A. FELKER 3521 Emerald St., Torrance, California

**Covington LAPIDARY EQUIPMENT**

**FOR QUARTZ CRYSTAL PRODUCTION**



16-inch LAP UNIT

14-inch Power Feed DIAMOND SAW

Used by U.S. Gov't.

Send for Literature to  
Covington Lapidary Engineering Co.  
Redlands, Cal.

*Find hidden values*

**NEW MODELS**

**GREATER EFFICIENCY  
HIGHER INTENSITY  
LIGHTER WEIGHT**

**FREE 4-Color Catalog**

**MINERALIGHT**  
Instantly identifies **SCHEELITE**

**MINERS — PROSPECTORS  
ATTENTION!**

Are you overlooking hidden riches? Over \$100,000,000.00 worth of Scheelite located by Mineralight users—much of it in gold, lead, silver and copper mining properties. Accurate check for Mercury, too. Models in all sizes shown in new catalog—also ore specimens in full color. Money-back guarantee and 20 free ore specimens with each lamp.

**WRITE DEPT. T TODAY**

**ULTRA-VIOLET PRODUCTS, Inc.**  
5205 SANTA MONICA BLVD. LOS ANGELES

**STUDENTS AND HOBBYISTS  
ALIKE FIND THE**

**DANA MAGAZINE**

A Source of Accurate and Always Timely and Interesting Information on the Absorbing Subjects of . . .

- GEOLOGY
- GEMOLOGY
- MINERALOGY

Subscriptions are \$2.00 Yearly;  
Single Copies 20c

**TELEPHONE TUCKER 6801**  
428 Metropolitan Bldg.  
LOS ANGELES, CALIF.

## AMATEUR GEM CUTTER

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting and polishing equipment. Leland Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connections with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

By LELANDE QUICK

A long interesting letter from Mark Foster of the Virgin valley gives me more information about the Roebing opal. Another letter from the present owner of the Rainbow Ridge opal mine, Harry Foulks of Stockton, California, tells me that trespassing is now positively forbidden. Mr. Foulks acquired the six patented claims comprising the Rainbow Ridge property last January and the area now is posted with boundary markers and no one is allowed on the property.

Since my recent article on the Virgin valley appeared I have had many inquiries, and Mr. Foster has had more than 50, from people who want to make the trek this summer in spite of everything. The advice is "stay away." Foster had more than 200 visitors in 1940 but only 87 in 1942 and up to May 1 of this year only 20 gasoline flush visitors had appeared in the valley. He says he enjoys most of the folks and he used to let them dig around the dumps but now that is strictly taboo as he has had to expel some guests with a gun.

Mark Foster is engaged in writing a book about the valley and he has conscientiously tried to separate the facts from the fiction that exist about that romantic spot. He advises that the Roebing opal was found in the Loughhead mine all right (Rainbow Ridge) but after Mrs. Loughhead had sold the mine. It was dug by a miner named Lew Thompson while J. B. Oliver was superintendent for the Hammond family of Santa Barbara who owned the property at the time.

The Roebing opal was originally an isolated opal about the size of a large potato but it has now been trimmed down to the size and shape of half a brick and weighs 17 ounces. Through a go-between Col. Roebing agreed to pay \$50,000 for the opal at the end of three years if it showed no cracks. Of that amount the Hammond family is reported to have received only \$5,000. After the gem was bequeathed by Roebing to the United States national museum they valued it at a quarter million dollars. In 1941 the museum advised Mr. Foster that the opal had been trimmed on the sides and ends but the broad surfaces still retained the original crust and the opal, for so large a gem, showed very little checking since it was turned over to them in 1925.

Foster took care of Mrs. Loughhead when she had a severe attack of lumbago in 1937 and he says she made no claim to him of having mined the opal. She always carried an opal with her worth about \$1,000 which she freely showed around. I talked with her personal physician in Los Angeles several years ago a few days after she had showed it to him. She told the doctor it was "worth a fortune" and that she was bequeathing it to the Smithsonian Institute upon her death.

"Opal is so scarce now," writes Foster, "that I discontinued advertising in 1941 but in spite of this I regularly receive about a dozen inquiries a week." Go to the Virgin valley this summer if you want to but rigidly observe the posted areas and don't expect the courtesy of the dumps. "People can't go into the Rainbow Ridge property even if I give permission," says Foster.

Louise Eaton, who writes that highly entertaining and philosophical section elsewhere in Desert Magazine entitled "Cogitations of a

Rockhound," covered the recent exhibition of the Los Angeles lapidary society. She has an account in this issue including a list of the prize winners. I have only this to report—that it was the greatest gem show ever held anywhere but of course I'm terribly prejudiced. Every gem lover should feel grateful to Archie Meiklejohn who chairmanned the show, to his able committee and to President De Witte Hagar who had vision enough to put on the show in these times. I do so hope that the times are conducive to another superlative show next year.

A long time ago I had a letter from W. B. Ellington of Palo Alto telling me he had found jade in place in California. Of course I was skeptical of this and much correspondence has passed between us regarding it. Mr. Ellington sent me some of the material and it really is quality jade. Some of my friends and myself have been cutting it and it is an even textured waxy dark green nephrite. Some of it, found as float, is black. The story of the find is intensely interesting and as romantic as most gem discoveries. Seventy years ago a man was hunting sea lions along the California coast and chased one into a cove. As he was about to make the kill he noticed some pretty green stones and later took some home where they were kicked around the yard until 1937. A florist called on him to sell him some plants, noticed that the green stones around the yard were jade and was told where they were found.

The florist showed one of the stones to Mr. Ellington but he would not reveal the place so he looked everywhere along the coast for three years until he located it. By investigating further he found the jade in place, a fact attested by members of the Stanford university faculty and some nationally known rockhounds. Only four people know the locality but Mr. Ellington has promised to take me there and that is something else to live for. The property is now controlled by the government and is closed to visitors for the duration. Mr. Ellington tells me that he has an opal from the Virgin valley as big as his thumb which has been appraised at \$3,000.

The gem cutters seemed to like the recent diagram and I am planning two more. One is Albert Hake's unique arrangement for displaying iris agate and the other is Herbert Monlux' idea for trimming cabochon material in a hurry.

### DID YOU KNOW . . .

- The first tourmaline found in California was discovered at Coahuilla, in the San Jacinto mountains of Riverside county, by Henry Hamilton in June, 1872.
- Not only white diamonds but yellow and pink ones have been found in Butte county, California, and a green one in El Dorado county.
- Most of the Incans' emeralds came from deposits near the present port of Esmeraldas in Ecuador. The Indians hid all traces of these mines so carefully that no one ever has found them.
- The tables on which the Ten Commandments were engraved are now thought to have been of lapis lazuli.



# GEMS AND MINERALS

ARTHUR L. EATON, Editor

## HIGH QUALITY FEATURES LOS ANGELES LAPIDARY SHOW

Oftenest heard statement at the gem display of Los Angeles lapidary society, aside from expressions of admiration, was, "I'd certainly hate to be judge and have to award prizes!"

Sweepstakes award, by vote of membership, was given C. E. Cramer for a clever house, garden and lapidary shop all built of polished rocks. Equipment in the shop actually worked. Neat wood piles with agate axe in petrified chopping block, buck saw and saw horse, bore witness to the industry of the house owner. Dinner could be seen on an attractive table in the miniature house—all stone. Cramer also received a first prize for novelties and a second for flats.

Runner-up with Cramer was Albert Hake, with one of the neatest displays ever exhibited at a mineral show. He won a first in flats and a second in cabochons for men. His stones were symmetrically arranged in suede-paper boxes. His method of showing iris agate was especially clever, using light and a mirror. The reflection showed the rainbows.

George Hoffman had an ingenious method of displaying his agates. They were mounted on wire coils in an illuminated box with a circular opening beneath each stone.

Mounted gems shown by Susie Kieffer and Jessie Quane were worthy of a place in any jewelry store. Especially lovely were: a tropical fish; a young girl with skirt and shoulder burden of thunder egg agate; a lapis lazuli fan; a Disney fairy with agate wings; animal pins with jewel eyes; a bubble dancer with moonstone bubble.

Mr. and Mrs. J. S. Forbes exhibited "black out lights" made from geodes. A slab was cut from the side of the rock and a hole drilled through the bottom to admit the light connection. The slab was utilized as base of the lamp which had a small red light in the central hollow.

Ray Kruger displayed Indian heads carved from howlite. R. E. Willis contributed a perfect stone fish, carved from Montana dendritic soapstone.

H. M. Heard showed some exquisite small dishes made from agate and other materials. F. H. Crawford had a large slab of sagenite lighted with flashing colored bulbs which looked like a picture of the everglades and trees hung with Spanish moss.

Outstanding decorations were arrangements of seeds and weeds by Mrs. Herbert Monlux and driftwood art by Mr. and Mrs. H. Loren Mitchell.

The gem theater of R. S. Grube attracted much attention as did also the rings and pins made by the ninth and tenth grade pupils of John Marshall junior high school, Pasadena.

Milo Tupper had an exhibit of petrified palm wood flanked by cut pieces of natural palm showing identical fibers.

There were beautiful clocks of marble and onyx, opalized logs from Virgin valley (Glenn Harmas), a large pink tiger eye cabochon (Le-

lande Quick), a geode filled with native copper (S. P. Hansen), a jewel location map of the United States (De Witte Hagar).

Although minerals are not stressed by the lapidary group, excellent collections were shown and the fluorescent "peep show" was beautiful. The most highly fluorescent specimens were arranged in a large V and the phosphorescents in a smaller one.

The 72 exhibitors entered 12,235 items. Ellsworth Beach, Chuck Jordan and Leo Cotton acted as judges.

Prizes were awarded as follows:

Cabochons, all varieties, all localities—Jane and DeWitte Hagar, 1st; Albert Hake, 2nd; Harry Ringwald, 3rd.

Faceted stones, all varieties, all localities—Thomas Daniel, 1st; Harry Ringwald, 2nd.

Practical arts—Howard McCornack, 1st; Ben Maben, 2nd.

Cabochons, ladies only—Grace Peters, 1st; Mrs. Claude Rosenberg, 2nd; Gladys Biegert, 3rd.

Mineral specimens—Richard Mitchell, 1st; Harold Hueckel, 2nd; Louis Goss, 3rd.

Special awards to—Mr. and Mrs. R. E. Willis, Dr. Marsden Heard, Archie Meiklejohn, O. C. Smith, Mr. and Mrs. Roy Cass, Thomas Warren.

Geodes and flats, ladies only—Claire Schroeder, 1st; Katherine Goss, 2nd; Pearl Robertson, 3rd.

Jewelry crafts—Susie Kieffer, 1st; Jessie Quane, 2nd.

Geodes and nodules—Ray Kruger, 1st; Melvin Gainer, 2nd; S. P. Hansen, 3rd.

Slabs and flats—Albert Hake, 1st; C. E. Cramer, 2nd; L. E. Lackie, Jr., 3rd.

Novelties—C. E. Cramer, 1st; Ray Kruger, 2nd; Russell Grube, 3rd; Mr. and Mrs. J. S. Forbes, 3rd. (Two 3rd prizes in this class.)

Special tray exhibit of cabochons—Raymond Yale, 1st; L. B. Hansell, 2nd; H. G. Kirkpatrick, 3rd.

Special tray of faceted stones—Thomas Daniel, 1st.

Special tray of jewelry—Jessie Quane, 1st; Mrs. Frank Crawford, 2nd.

Special geode tray—Fred Rugg, 1st; Katherine Goss, 2nd; Harold Hueckel, 3rd.

Special flats on tray—C. R. Standridge, 1st; Belle Rugg, 2nd; Melvin Gainer, 3rd.

Novelties on tray—Howard McCornack, 1st; R. E. Willis, 2nd; Ray Kruger, 3rd.

Tray exhibit of practical arts—J. S. Forbes, 1st; Mrs. J. S. Forbes, 2nd; Herbert Monlux, 3rd.

## EDITOR DAKE COMPILES MINERAL CLUB HISTORY

Dr. H. C. Dake, Portland, Oregon, editor and publisher of the Mineralogist, has compiled a mineral club history tracing the development of mineral clubs during the past 15 years.

The seven chapters cover gem and mineral organizations and federations in the United States. It is profusely illustrated.

## NAVAJO MINERAL USES SUBJECT OF BOSTON MEET

Dr. Leland C. Wyman, associate professor of physiology, Boston university school of medicine, and supervisor of ethnology, university of New Mexico summer session, spoke on use of minerals by the Navajo Indians at May meeting of Boston mineral club. Dr. Wyman, who has done much field work in ethnology of the American Indian is an authority on many topics concerning the Indians of the Southwest.

Boston club had a field trip May 16 to Mystic river quarry, an abandoned quarry in Somerville, reached by trolley. It is noted for the titanium minerals, anatase, brookite and rutile, discovered there 40 years ago by Professor Palache. The minerals occur embedded on quartz crystals which line small calcite veins. They are revealed by dissolving the calcite with dilute acid.

Russell S. Grube, charter member of Los Angeles lapidary society, and a prize winner at the recent show, wants to organize a similar society in the San Jose region. All active lapidaries with equipment (amateur only; no dealers) are invited to contact him at Box 124, San Jose, and they will be notified when an organization meeting will be held.

## NEW GEM STOCK

**OPAL IN LUCITE** — There is always something new and this is one of the latest. Fiery pieces of Australian Opal embedded in blocks of clear Lucite that have been polished. The Lucite blocks are about 1 1/4 in. square. Nice pieces \$1 but really choice ones \$1.50, \$2, and \$3. THESE CAN BE RECUT INTO CABOCHON GEMS.

**JADE—Wyoming.** Beautiful green nephrite in sawed slabs at 35c to 50c per sq. in.

**LAPIS LAZULI—Chile.** Sawed slabs priced at 25c per sq. in; best slices are 50c per sq. in.

**SARDONYX—Brazil.** Strikingly sawed slabs contrasted red and white agate, 20-25c per sq. in.

**CARNELIAN—Brazil.** Sawed slabs of red-brown agate. Very choice 15-25c per sq. in.

We Recommend . . .

**THE ART OF GEM CUTTING** by Fred S. Young. New 1943 edition, 112 pages, 50 illustrations ..... **\$1.50**

**JEWELRY, GEM CUTTING AND METAL-CRAFT** by William T. Baxter, 280 pages, 170 illustrations ..... **\$2.75**

**GEMS AND GEM MATERIALS** by Kraus and Slawson ..... **\$3.00**

Our 1943 JUBILEE CATALOGUE contains a complete listing of ROUGH GEM MATERIALS, hearts, and pendants. Also GEM MATERIALS CUT IN FINISHED CABOCHON SETS OF ALL SHAPES AND SIZES. In order to distribute this catalogue to those most interested, we are asking you to send us 10c in STAMPS plus 5c for POSTAGE.

Our shop will be closed to the public every day until further notice. Save your tires—Order by mail or telephone.

## WARNER & GRIEGER

405 Ninita Parkway Pasadena, Calif.  
Our Phone Number is SY-camore 6-6423

## STATE MINERALOGIST SPEAKS FOR NORTHERN CALIF. CLUB

Walter M. Bradley, state mineralogist, discussed use of color photography in geologic and mineral field work at the general meeting of Northern California mineral society. He illustrated his talk with kodachrome slides showing the practical application of photography to various phases of field work.

Curator L. Galpern reported that the society's cabinet is now ready to place in the Academy of Science, Golden Gate park.

## GEM MART

Adv. rate, 5c a word—Minimum \$1.00

### HERE ARE BIG BARGAINS . . .

Rare Crystals of all kinds, \$1.50 and up. Montana Sapphires, cutting quality, 60c a carat. Sawn California Geodes, 25c and 50c each. Send for my Gem List, 10c, cost returned on first order. Specimens can be returned if not satisfactory. The Desert Rats Nest, 2667 E. Colorado, E. Pasadena, Calif.

ANTIQUÉ JEWELRY — Locketts, brooches, chains, rings, etc. 12 assorted, \$3.00. B. Lowe, Box 311, St. Louis, Mo.

AGATES, Jaspers, Opalized and Agatized woods, Thunder eggs, polka dot and other specimens. Three pound assortment \$1.50 postpaid. Glass floats, price list on request. Jay Ransom, 1753 Mentone Ave., Pasadena, Calif.

ZIRCONS—OPALS—CAMEOS — 3 Genuine diamond cut Zircons (total 2½ carat) \$2.75. Twelve Genuine Opals \$1.50. Twelve Genuine Cameos \$2.50. B. Lowe, Box 311, St. Louis, Mo.

INDIAN RELICS. Beadwork, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons. Catalog 5c. Vernon Lemley, Osborne, Kansas.

100 JEWELRY STONES removed from rings, etc., assorted \$2.00. B. Lowe, Box 311, St. Louis, Mo.

Shadow striped Obsidian. Smoky with black lines. Beautiful for costume jewelry—especially beautiful for hearts. Send in your order at once—10c a square inch or 90c a pound. We also have assorted cutting material at 25c a pound. You pay the postage. Chuck and Rocky, 201 Broadway Arcade, Los Angeles, Calif.

A NEW SHIPMENT OF JAMESONITE from Utah. Beautiful hair-like acicular crystals, with bright metallic luster. These specimens carry copper, zinc, silver and iron. These belong in every crystal collection. Priced at \$1.00 to \$10.00. ZEOLITES. A good supply of these beautiful specimens from New Jersey. These specimens contain Prehnite, Datolite, Huelandite, Quartz, and Calcite. Most of the specimens are mixtures of two or more of these. Generous specimens priced from \$1.00 to \$6.00. CHRYSOBERYL from the jungles of Brazil. This is a "hard-to-get" crystal and we were fortunate in obtaining a small supply. These are not cutting crystals; but every crystal collector will want one. Priced at \$25c, 50c, \$2.00 and \$2.50. Chuck and Rocky, 201 Broadway Arcade, 542 So. Broadway, Los Angeles, California.

### ROCKHOUNDS . . .

We have a large stock of Cabinet specimens, Gem material, Cut stones, Mineral books. We want to buy good gem material and specimens. Come and see us and join our Rockhound Colony.

THE COLORADO GEM CO.  
Bayfield, Colorado

## AMONG THE ROCK HUNTERS

Mineralogy class of Searles Lake gem and mineral society of which Henry Withington is instructor, held a successful meeting May 6 at Trona unified school. Methods of identifying minerals were discussed. Hardness and streak tests, with samples, were demonstrated. The class plans to study those methods of identifying minerals which are easily applicable in the field. These include tests of hardness, color, streak, luster and specific gravity, or weight. Only requirements are a table of minerals, a small streak plate and a set of standard hardness minerals. The hardness minerals are easy to acquire. They are, in order: talc, gypsum, calcite, fluorite, apatite, feldspar, quartz, topaz, corundum and diamond.

West Coast mineral society studied gypsum, selenite, alabaster, and other forms of gypsum at the May meeting held at Fullerton high school.

J. G. Ross was elected secretary-treasurer of Golden Empire mineral society at the February meeting. The group has convened twice this year, in February and April.

Because several members of Imperial Valley gem and mineral society were leaving for the summer, June rock-swapping meeting was held May 29. Hosts were Mr. and Mrs. Henry Seamans, Holtville. July meeting will be held July 4 at home of President Lloyd Richardson. As usual, the society will meet two or three times during the summer.

Southwest Mineralogists, Inc., have elected the following officers to serve 1943-44: C. R. Standridge, president; Sam Boase, vice-president; Herbert Collins, recording secretary; Dorothy Craig, corresponding secretary; Franck Stillwell, treasurer. Board of directors includes, in addition to the above officers, E. A. Prosser, Albert Hake, Harold Eales. Field trip to Coldwater canyon was scheduled for May 23.

Mineralogical Society of Arizona is proud of its membership and activity record during its first year. An attractive informative monthly bulletin has been published, attesting varied studies and activities, and a more-than-doubled membership indicates increased interest among Arizona rockhounds. H. S. Keithley, West Van Buren and Tenth avenue, Phoenix, has offered to supply other clubs with helpful suggestions for a successful gasless season.

W. Scott Lewis in his May bulletin lists willemite localities in the United States as follows: Arizona—Mammoth mine at Tiger and a new locality near Casa Grande; California—Ygnacio and Cerro Gordo in Inyo county; Colorado—Sedalia mine, Salida, Chaffee county; New Jersey—Franklin region, Sussex county, only location, where willemite is common; New Mexico—Lion claim, Grant county, Tres Hermanos district, Luna county, Hillsboro district, Sierra county, Magdalena and Socorro peak districts, Socorro county; Utah—Star district, Beaver county.

Raymond Miller, engineer, reports that Northwest Aluminum plants, mainly in the Portland area, now are producing 50 percent more than the total national output before the war.

The May 19 meeting of Searles Lake gem and mineral society took place in the men's lounge of the Trona club, with Don Young as speaker. His subject was watches and watch repairing.

Mineralogical Society of Arizona has made tentative plans for informal monthly meetings during the summer at homes of members. Regular semi-monthly meetings will be resumed October 7. Newest members to be welcomed are Mr. and Mrs. J. H. Egge, Richard Hilbrant, Billy Wallace and A. N. Lindstrom.

Jack Woodruff and George King, Sacramento miners, are reported to have located extensive deposits of crystal nine miles west of Anza in Cleveland national forest. One specimen is said to weigh at least 10 pounds and is on exhibition in county supervisors' office at the courthouse, according to Hemet News. Representatives of the war production board will visit the mine, said County Supervisor Walter V. Pittman.

George H. Meedham was speaker at May 6 meeting of East Bay mineral society. He showed about 40 specimens by projecting on the screen the findings of an ordinary microscope fitted with polaroid filters. Dr. Austin F. Rogers, professor emeritus of mineralogy and petrology, Stanford, lectured on the silica minerals, illustrating his talk with slides at the second May meeting.

## Cogitations . . .

Of a Rockhound  
By LOUISE EATON

Therz an awful lot uv good moonlight goin' to waste these times when rockhounds can't go on field trips. Skies in town seems a pale imitation of desert canopies. Anyhow you can't half see the moon 'n stars in towns 'cause buildings gets in the way. To say nuthin' of fog.

When rockhounds goes to a meeting 'r a party they looks just like human beings. You have ta squint close at their hands 'r listen to their talk to tell that they're really rockhounds. Polishin' rocks wears off finger nails so's they's generally lopsided. An' conversations 'mongst rockhounds always bristles with words not often used by folks with other interests.

Believe it 'r not some rockhounds don't drink coffee! Seems as though they miss one of the good things of life. But when rockhound groups gets together uncoffee drinkers is always generous 'n donates their ration to others.

Rockhounds sure is trustin' souls. Did you ever go to a gem 'n mineral exhibit where there's dollars 'n dollars worth of stones spread around loose? Any light fingered visitor could easily annex a few specimens 'n no one would know what had become of 'em. At first the exhibitors watches their stones pretty close, but soon they gets too interested in what the other fellow has, 'n everyone circulates around and stops guardin'. But no true rockhound would ever appropriate what wasn't his.



Linde air products, General electric and Bulova watch companies are producing synthetic stones from aluminum oxide for use as jewel bearings in various instruments. After the war jewelry probably will be made from synthetic gems as they are much cheaper than natural stones.

Phil Dulin, Little Rock, Arkansas, mine operator, donated a huge block of bauxite to be placed on the state capitol grounds. Although the huge boulder contains about five tons of potential aluminum, not a pound of the essential mineral is available for a suitable marker plaque. Secretary of State C. G. Hall could find no metal of any kind for the purpose, so for the duration a wooden sign is affixed.

Orange Belt mineralogical society elected the following officers for the coming year: R. H. Ells, president; H. R. Chatlain, vice-president; Doris Price Rawlings, secretary; I. V. Graham, treasurer; Peter W. Burke, federation director; Dr. D. H. Clark, Verne L. McMinn, Fay Hamilton and H. L. Carpenter, directors. The meeting was held May 2 at the home of Dr. and Mrs. D. H. Clark in Redlands with 60 members and friends present. R. H. Ells of Norco talked on geology and history of Mt. Lassen region. Door prizes were sets of polished book ends and a large polished slab of petrified palm wood. Dr. Clark displayed his collection of polished woods.

## MINES PAMPHLET GIVES TESTS FOR GAS HAZARDS

In the list of new publications of the U. S. bureau of mines, is the name of one publication, No. 3686, which should interest all Americans, and especially all black out wardens. The entire pamphlet is on the application of carbon tetrachloride type fire extinguisher liquid to burning magnesium chips and magnesium incendiary bombs, by S. J. Pearce, Leopold Schefflan, H. H. Schrenk, G. E. Ferguson, and H. R. Brown. There are 18 pages and 17 figures. It gives the results of an investigation to determine the nature of the hazards from the gases evolved if the carbon tetrachloride type fire extinguisher liquid is applied to burning magnesium incendiary bombs. The tests were designed to determine whether phosgene is formed and whether other significant gases are formed under the same conditions.

## THE DESERT CALLS

By HERBERT J. ANDREWS  
Upland, California

I hear the desert calling,

But there's no gas in my car.  
And that really seems appalling  
For I can't go very far.

But I want to hit the desert trails  
And leave my cares behind.  
For somehow it never fails  
To ease a person's mind.

To get out in the wide open spaces  
And breathe the desert air  
Will bring a change to faces  
That are too lined with care.

Sometimes we find a treasure  
Just beneath the ground.  
Then how we shout with pleasure  
To tell what we have found.

It may be only a piece of jasper,  
Or perhaps we've found some jade;  
But it's just the thing we're after  
And pays for the trip we've made.

## COLORFUL MINERALS

### SAPPHIRES

If one were to stop almost any person on the street, and this may as well include most of the professional jewelers of our large cities and ask "What color is a sapphire?" the answer would almost always be the same: "Why, dark blue, of course!"

But the mineralogist becomes familiar with the idea that "sapphire" means a large family of stones. All of them are corundum,  $Al_2O_3$ , and all have the same hardness of nine, and the same specific gravity. But in color they differ widely. The sapphire of commerce is always either dark blue or cornflower blue. But this magnificent stone shows many other colors also. Each of the other colors usually bears a name of its own. These names may vary in different countries and localities, but some of them are quite well known: pigeon blood red corundum is known as ruby, or oriental ruby; grass green as oriental emerald; colorless as leuco sapphire; pale blue or green as oriental aquamarine; yellowish green as oriental chrysolite; yellow to brown as oriental topaz; aurora red as oriental hyacinth; and violet red as oriental amethyst.

To the uninitiated it always comes as a surprise that the magnificent oriental ruby, the grass green oriental emerald and the blue sapphire are really members of the same family.

## FOUR-DAY GEOLOGY TRIP LED BY VAN AMRINGE

Geology students of Pasadena junior college, accompanied by members of the Mineralogical Society of Southern California, completed a four-day trip in the Kern river country in mid-May. The caravan was led by Edwin V. Van Amringe of the junior college faculty, and included 76 persons in 19 cars. Camp was made the first night, May 14, in Red Rock canyon. Next day the group went over Walker Pass to visit the custom tungsten mill at Weldon, securing scheelite and fine garnet specimens. Beautiful banded marble outcrops in enormous beds nearby. A side trip along the Kern river led to ghost town of Keyville which between 1854 and 1858 was the most active gold camp south of the Mother Lode. The lone present inhabitant gave the party a vivid picture of life in the old camp.

The afternoon was spent with Dr. J. W. Prout and his brother, mining geologists, and James Jorgensen, mine superintendent, at the famous Big Blue gold mine north of Kernville. A complete field study including collection of all rock and ore types, and an inspection of the combined flotation and amalgamation mill, highlighted the trip. Dr. Prout provided the entire group with specimens of scheelite, stibnite and native antimony from inaccessible properties nearby. Next campsite was in the national forest at Limestone Cliff, where big campfires provided background for evening programs.

Following day included a hike to study the Kern Canyon fault. Of special interest was Packsaddle cave, where evidence of past and recent faulting was observable in the stalactites. Later, chalcocite and other minerals were collected at Greenback mine.

Sharktooth Hill provided the final point of geologic interest, all members of the party collecting fossil teeth, bones and mollusc shells in abundance.

## MEMBERS URGED TO READ FEDERATION BULLETIN

Mineral notes and news, official publication of California federation of mineralogical societies, edited by Paul Van der Eike, has grown from a mimeographed sheet to six printed pages. Mr. Van der Eike reports that he hopes to expand it to eight pages. All work done on the magazine is uncompensated. The small fee charged covers only printing and postage.

All federation members should subscribe. The leaflet contains news of the societies, a home study page designed to help replace field trips and articles dealing with minerals or gems. The advertisements are especially interesting to rockhounds.

Dr. Robert Webb, U.C.L.A., gave a geological summary of the Los Angeles basin at the May 20 dinner meeting of Los Angeles mineralogical society. He used lantern slides to illustrate his talk. William R. Harriman read a paper on pyroxenes. Members displayed rare or beautiful specimens on tables around the room. Prize for identifying minerals was a cluster of amethyst crystals. Mrs. Benedict was hostess. The tables were attractively decorated with blue and gold flowers in honor of Dr. Webb.

Do you know that even the most costly of precious stones, as well as the cheap and common ones, take their beautiful colors from such common and ordinary elements as iron, nickel, chromium, cobalt and copper?

## HILTON'S Art and Gem Shop

JOHN W. HILTON, Owner

On U. S. Highway 99, Ten  
Miles South of Indio

ACROSS FROM VALERIE JEAN DATE  
SHOP, P. O. ADDRESS, THERMAL, CALIF.

## SUBSCRIBE TO

## Hoofs and Horns

To Keep Abreast of the RODEO  
GAME and its HAPPENINGS—

Its news about Rodeos and Roundups is the most authoritative of any published in America. Rodeo Association bulletin and Cowboy's Turtle Association news are published monthly.

Those who enjoy poetry of the Old West will revel in the abundance of truly typical poetry that appears in each issue of Hoofs and Horns. You'll like Hoofs and Horns!

Each issue is generously illustrated with pictures of the people and places that are important to the current and past history of the Range country. Don't miss a single copy!

### Subscription Rates

1 YEAR \$1.50	2 YEARS \$2.50
3 YEARS \$3.25	5 YEARS \$4.50

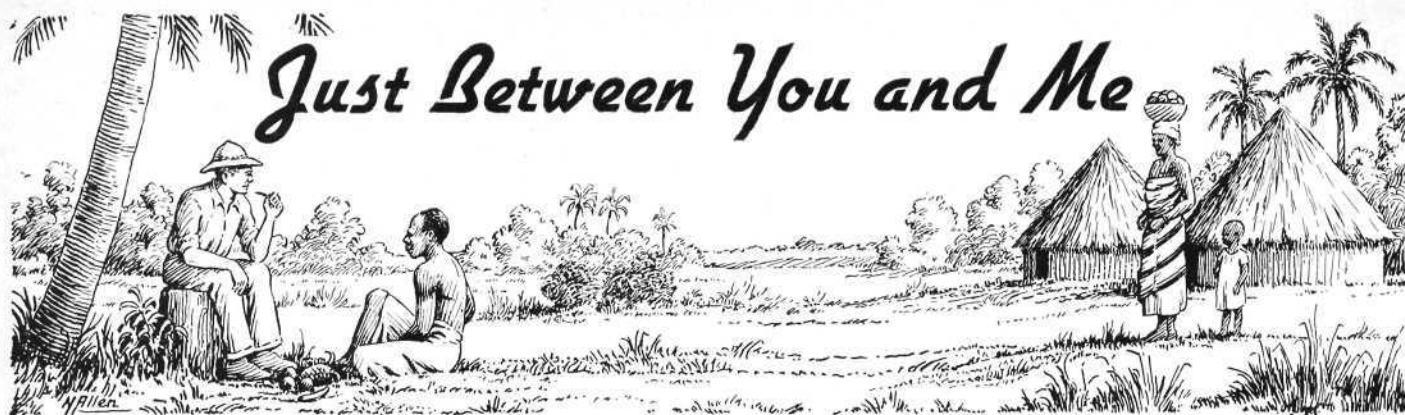
MONEY MUST ACCOMPANY THIS ORDER

SEND NAME AND ADDRESS TO

**HOOFS and HORNS**

P. O. Box 790

Tucson, Arizona



By RANDALL HENDERSON

THE NAME of our army camp is a military secret. So we call it Bushtown. In many respects Bushtown is a typical American small town transplanted in tropical Africa. It is a straight-laced town—rather old fashioned.

The doors are never locked at night. There are no night clubs. Midnight parties not only are frowned on—they are taboo. The curfew is at ten o'clock. There are no women in Bushtown except a few army nurses.

In the evening, everyone not on duty goes to the outdoor theater, military police at the gate collect no admission fees. They are there merely to make sure the soldiers are wearing their mosquito boots and have their sleeves rolled down. This is malarial country. Thanks to the precautions of the medical corps malaria has never plagued Bushtown.

New pictures are thrown on the screen here a few weeks after they appear in Los Angeles and Miami. There are also radio recordings. The Jack Benny-Fred Allen feud is no less hilarious in Africa than in Omaha. The Bushtown boys shout with laughter, and know all is well on the home front.

Pictures filmed for civilians in the States often provide an unscheduled laugh for soldiers overseas. In the newsreel the other night the films showed Canadian fishermen bringing in a record catch of mackerel, "all to be canned and packed for the boys overseas." You can imagine the reaction of soldiers who for months have been subsisting mainly on processed meats.

In the Bushtown barber shop there is neither water nor razor. Customers sit in a straight-backed chair mounted on a box. If the native barber is tall he spraddles his bare feet half way across the floor to get down to the proper level. He would not know how to use a razor if he had one. For soldiers who prefer a clean-shaved neck, he does his best to oblige by digging in a little deeper with his hand clippers. Admission to the barber shop is 20 cents and that covers the one and only service rendered there—haircuts.

Bushtown library has 1,833 books, contributed by Americans in the victory book drive. They are loaned for 10-day periods. Last month there were 2,097 borrowers—1,328 fiction and 769 non-fiction. More than 200 soldiers in Bushtown are taking correspondence courses in American schools and universities. In most cases the courses are selected in preparation for better civilian jobs when the war is over. Bushtown has a school of music with free lessons for beginners and advanced players who want to keep in practice. There is also a class for students of the native language.

Early every Sunday morning two or more big army trucks leave camp on the weekly Bush trip—an all-day excursion into the bush and jungle country where soldiers visit native villages, buy souvenirs and take pictures. There is always a waiting list for the seats in the Bush trucks. The natives like the Americans.

The soldiers dash them on cigarettes or a piece of candy—and come home loaded with bananas.

The army is generous with athletic equipment at Bushtown, as it is everywhere in well established camps. The Bushtown baseball league plays every afternoon at four. Since censorship forbids the use of official unit names in Bush Weekly, the camp newspaper, the teams call themselves by such names as Wog Pushers, White Masters, P two Ls (permanent second lieutenants), Sad Sacks, Zeros, One Timers, Shack Rats and Can Openers.

According to the censors, the soldier in Bushtown writes an average of five letters a week. After the first month overseas few deletions are necessary, although all letters are passed on by an officer before they go out.

Bushtown post exchange is well stocked with soap, cigarettes, hard candy, writing paper, razor blades and other essential items—but few luxuries. Perhaps it won't make sense to folks at home, but one of the unsatisfied longings in most of these boys is just to buy something. They have plenty of money—and no place to spend it. Occasionally the PX obtains a stock of African ivory or native silver items. Quickly the word spreads around camp and within a few hours the stock is exhausted. Day after day the men go back to the post exchange and saunter along the show cases and shelves to see if there is something new to buy.

Letters from home are the most important interest in the life of a Bushtown soldier. Mail takes precedence over mess call, the theater or any other diversions on the field. Postal deliveries are irregular but on evenings after a big consignment of mail pouches reaches camp there is a noticeable falling off in attendance at the show. The recreation halls are crowded with boys writing home.

At the theater each evening a brief summary of the day's short wave radio reports from the battlefronts is presented. Good news of course brings applause. When the reports are adverse there is an audible murmur—amazement that such a thing could happen. And how the soldiers howl with derision when the periodic boastings of Hitler or Tojo or Mussolini are quoted. To these boys, defeat is something that couldn't happen. It just isn't possible. They are doing their jobs—and they have the utmost faith that Americans on every front, home and overseas, are doing the same.

Bushtown is not marked on the maps. The enemy never heard of the place. But to numberless American soldiers the name will be remembered long after the APO number of this station is forgotten. There is good shelter and ample food and warm friendship in Bushtown. It is not a permanent substitute for the home back in the States. But there is an emergency job to be done and Bushtown is fulfilling its role with courage and enthusiasm. These boys will always be glad and proud of their Bushtown adventure.



# LETTERS...

## No Desert Sunsets Down Under...

Australia

Dear Editor:

During normal times the Great Salt lake is almost in my back yard. The great salt desert stretches away across the valley and the desert hills encroach upon almost any road I care to take. That's how home is, and I like it that way.

At present I live at various places which Sam, our Uncle, selects. But somehow he has failed to select a place where the sunsets compare with those of the desert. He hasn't once moved us into a region that seems capable of impressing us with its own moods. He hasn't placed any of our camps along jagged skylines or near vermillion cliffs or among grey hump-backed hills.

So you can see why I am a bit lonesome at times and why nostalgia and I are well acquainted. If you will send just a bit of the desert to me each month in your magazine I'll thrill vicariously for a while to tales of desert folk and their crazy wonderful adventures that only other desert folk can properly understand. I'll be eagerly awaiting the arrival of that first issue.

Tech. 5 DALE WINN

...

## "Every Member of the Family"...

Marion, North Dakota

Dear Desert Staff:

Here is my subscription for another year. Thank you for a clean magazine which every member of the family can enjoy. I read it from cover to cover and then often reread it.

Never having been on the desert, I suppose I can't appreciate some of the articles like the seasoned desert rats do, but I hope some day to make my acquaintance with the great Southwest and learn all about it from personal experience.

CORA SANDERS

...

## Wants to Keep Up With Souths...

Douglas, Arizona

Sirs:

I think you have one of the best little magazines in the whole country. The only thing is that sometimes I miss an issue at the newsstand. And as I always want to hear how the South family are making out in their travels looking for a new home, I am enclosing money order for two years' subscription.

I've traveled all over this old Southwest for the past 50 years, so everything in your magazine is of interest to me.

HENRY ELVEY

## Burros vs. Zoo Animals...

Camp Roberts, California

Dear Desert:

As a fellow lover of the desert I know you too will be as indignant as I was when I read the enclosed clipping from an Oakland newspaper suggesting that San Francisco zoo animals may be fed Mojave desert burros.

The people of San Francisco undoubtedly take pride in their zoo but during these war days the burro is much more the symbol of the freedom we are trying to maintain than the caged up animals in the zoo. If there must be a reduction, let it be those penned up animals that have made no contribution towards the building up of this great West.

I sincerely hope that when I come back home I will not find those herds that roam the Slate and Argus canyons depleted.

PVT. CECIL M. RISBRIDGER

...

## DM Not in Luxury Class...

Rochester, New York

Dear Miss Henderson:

I know Desert Magazine would be considered a luxury perhaps by the Bond Issuers, but to me it is quite a necessity. I can't imagine getting along without it. So please renew my subscription and send me the special back issue assortment.

When I was in Arizona on leave of absence I did many of the enchanting things Desert is always portraying. For instance, taking that unforgettable ride down to Rainbow Bridge; spending a night at Phantom ranch in Grand Canyon; riding down to the Supai reservation and seeing those glorious falls of the Havasupai and even climbing down that precarious ladder to the bottom of Mooney falls.

DORA M. LOETZER

...

## "As Soon as the War is Over—"...

Howard, South Dakota

Dear Sirs:

I received the complete file of DMs and would not part with them for a ton of agates.

I am a rockhound, and do I get a bang out of DM. Wish Hilton would write more trips.

You make the Southwest so good that I have every collecting place logged and planned clear down to Mt. Signal and through to Big Bend of Texas—this is a 7,000-mile trip I've planned to take just as soon as the war is over.

Thanks a million for the best magazine printed.

A. L. KRUEGER

## Identifies Movie Backgrounds...

Rolla, Missouri

Gentlemen:

Originally I saw DM on a newsstand in Tucson. When I left there I entered a subscription, and later built up a complete back file, which was supposed to help me bear the "refined East" for a few months until I could again get to the desert. It has been over four years now, and probably will be many more before I see the desert, but the magazine will help me make it, I'm sure.

I have been much interested in the editorials since Mr. Henderson joined the air corps. His observations of flora in the areas where he recently has been are especially interesting. I became acquainted with the wet tropical flora of Florida and while in Arizona I learned some of the features of the deserts. On a trip to Guaymas, Mexico, I was surprised to find many of the Florida plants growing with those of the desert. Of particular interest was a location where mangrove grew within a few feet of organ pipe cactus and saguaros.

I have managed to identify certain regions in movie backgrounds from the plants and geological features. In "Stagecoach," for instance, I found a running gun battle that started in Monument Valley, continued into the Wilcox Playa in southern Arizona, returned to Monument Valley, and ended in Lordsburg, New Mexico, representing a distance of about 900 miles in a few minutes!

This would suggest that an article on movie "horse opera" locations would be of interest. The spectacular locations commonly used might be discussed, along with the pictures. Among these would be Blue canyon, Arizona; Monument Valley, Utah; the Tucson, Willcox and Tombstone region; the sandy desert near Yuma.

The more articles you have that make me homesick, the better I'll like Desert Magazine.

GILBERT L. CAMPBELL, Librn.  
School of Mines and Metallurgy

...

## DM Pinch-Hits for Mojave...

New York City

Dear Sir:

Several years ago when I lived in California I became a constant reader of your publication. Needless to say I do miss your beautiful land very much for there isn't anything here in the East to take its place. I hope to return there soon, and until then your interesting and wonderful magazine has to take the place of the Colorado and Mojave deserts of California.

FRANK DANNER



Uncle Sam says—CARE FOR YOUR CAR!

**PROTECT YOUR  
UPHOLSTERY!**

## Deluxe Fiber Seat Covers

**\$5<sup>60</sup>**  
and up

**PLUS INSTALLATION**

### AVAILABLE AT UNION OIL STATIONS ONLY

Minute Man De Luxe Seat Covers are available only at Union Oil Service Stations and Dealers. Drive in at your neighborhood station today. Choose either plain or plaid design. It's a simple matter for you to install them, or the Minute Man will do so for a small service charge. Order a set today! They make any car interior look like a million.

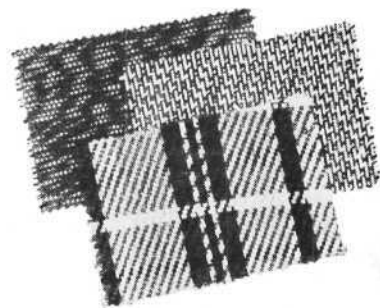
#### TYPICAL PRICES

Coupe, Straight Back, 1928-40 . . .	\$ 5.60
Coupe, Divided Back, 1935-40 . . .	7.20
4-6 Passenger Coupe, 1940 . . .	12.20
Coach, 1928-40 . . . . .	12.20
Sedan, 1928-40 . . . . .	12.20



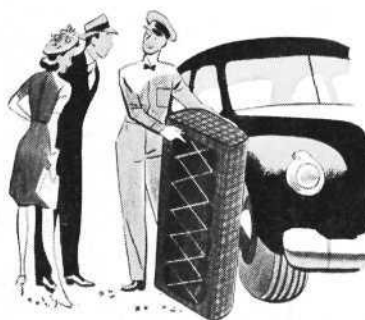
#### THEY'RE COOL

These seat covers are made of fiber because fiber is the coolest thing you can sit on. They provide a circulation of air on the hottest day. And they make it easy to slide in and out.



#### THEY'RE ATTRACTIVE

Minute Man De Luxe Seat Covers come in rich plain and plaid patterns. Illustration here shows three typical designs. Ask the Minute Man to give you information on the available patterns.



#### THEY REALLY FIT

And here's a real feature. These covers are fastened by laces that pull the material snug and smooth and keep it that way. They can be removed at any time without leaving a mark in your upholstery.



#### THEY SAVE CLEANING BILLS

With these attractive fiber seat covers you'll save on cleaning and pressing. They keep clothes as free of wrinkles as any material can. Clothes just don't stick when you sit on fiber.



**UNION OIL Minute Man STATIONS**

CARE FOR YOUR CAR—FOR YOUR COUNTRY